



Artificial Intelligence's Impact on Marketing

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Dissertation submitted as a partial requirement to obtain the Master's degree on
Business Administration

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August, 2021

Acknowledgments

I wish to express my gratitude to all who, in any way, made this possible.

First and foremost, I want to thank my advisors: Professor Doutor Renato Lopes da Costa and Professor Doutor Rui Gonçalves, for the guidance (through every step of the way) and all the words of encouragement that gave me the strength to continue.

I also want to express my gratitude to the interviewees - that provided me with their kindness, time and insights.

And Last but not least, I want to thank my family, without their support I could not have done it. They believed in me when I would not.

Abstract

Today's business environment reinforces digitalization, a phenomenon particularly noticeable with the Covid-19 pandemic. Companies must survive a fast-moving and constantly changing business environment, an increasingly fierce competition, and increasingly exigent customers. To differentiate themselves from the competitors many companies chose to adopt "new" technologies. Companies are introducing Artificial Intelligence as a way to be innovative and improve their strategies. Research deems Marketing as the main beneficiary of this technology. This research's main objective is to examine Artificial Intelligence's Impact on Marketing, understanding the extent of the introduction of this technology in companies located in Portugal, comprehend whether they use it on Marketing and explore the results of this decision. To do so, the research used a qualitative approach, the content analysis of twenty-one interviews with professionals familiar with the theme. Concluding that even though the majority of the interviewees introduced Artificial Intelligence, a big part of them does not use it in a continuous manner. When assessing the interviewees' perception of this technology, only one did not consider it to be a competitive advantage. According to the interviewees, the main challenge is the cost of the investment, and the benefit is the strategic information the system produces. The interviewees stated that the key change is emergence of Marketing 1to1 (due to the levels of personalization achieved), allowing companies to offer a better customer experience, resulting in the increase of customer satisfaction, which, consequently, translates itself in the increase of customer loyalty.

Key words: Artificial Intelligence, Marketing, Personalization, Customer-Brand Relationship.

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List of abbreviations

ABM	- Agent-Based Modelling
AGI	- Artificial General Intelligence
AI	- Artificial Intelligence
ANI	- Artificial Narrow Intelligence
ANN	- Artificial Neural Networks
B2B	- Business-to-Business
CAP	- Credit Assignment Path
CDO	- Chief Digital Officer
CEO	- Chief Executive Officer
CNN	- Convolutional Neural Networks
CRM	- Customer Relationship management
DL	- Deep Learning
HI	- Human Intelligence
HR	- Human resources
IoT	- Internet of Things
ML	- Machine Learning
MLP	- Multilayer Perceptions
NGO	- Non-governmental Organization
NLG	- Natural Language Generation
OCR	- Optical Character Recognition
R&D	- Research and Development
RNN	- Recurrent Neural Networks
RPA	- Robotic Process Automation
SEO	- Search Engine Optimization
WOM	- Word of Mouth

Chapter I – Introduction

1.1. Topic and context

Evolution is disruptive, most times, even incompatible with what precedes it, impacting all aspects of our lives (Paiva & Prevedello, 2017). According to Schrettenbrunnner (2020), modern technology, and humanitarian, economic and ecological conditions drive the paradigm shift. Recent studies connect this phenomenon to economic fluctuations and profound structural change. Safarti (2016) believes technology bring us together. The invention of the telephone made long-distance communication instantaneous. Social Networks enable the creation of new global communities by connecting people with similar interests (Lobo, 2017).

Rivera Estrada & Sánchez Salazar (2016) highlight how technology evolution reconfigures the concept of human beings, makes us question our humanity, and increases our desire to improve our condition. Technology improves life quality (Costa et al., 2019; Paiva & Prevedello, 2017; Peyravi et al., 2020) and makes daily tasks simpler. The Internet allows us to be just a click away from everything. With the increasing levels of accessibility and convenience, people became impatient, adopting a "here and now" mentality (Lobo, 2017). Technology changes the way markets develop and make it harder to satisfy customers. According to Peyravi et al. (2020), companies are continuously looking for ways to improve strategy and Artificial Intelligence might be the solution for this problem.

Artificial Intelligence (AI) is a part of a technological movement, known as the Fourth Industrial Revolution, Digital Transformation or Industry 4.0 (Grandinetti, 2020; Hollebeek et al., 2021), characterized by its several complementary components co-evolution (Grandinetti, 2020), the fusion of technologies, and by blurring the lines between the physical, digital, and biological spheres (Hollebeek et al., 2021).

Grandinetti (2020) and Hollebeek et al. (2021) state that, although Artificial Intelligence's concept is not recent, its popularity is. Grandinetti (2020) when studying Artificial Intelligence's popularity set the hypothesis that was the result of an excess of optimism regarding its ability. However, the author came up with a different opinion when considered all the successful applications on Marketing.

Regarding the introduction of Artificial Intelligence on Marketing, Grandinetti (2020) highlights that this technology will produce highly transformational impacts in how people conceive and conduct Marketing. The author also noticed an increase in interest surrounding this topic. Research sees Marketing as the main beneficiary of Artificial Intelligence introduction (Davenport et al., 2020; Peyravi et al., 2020), leading many researchers to believe Marketing should lead the discussion surrounding the adoption of this technology (Davenport et al., 2020).

Artificial Intelligence can automate the data collection, processing and analysis. It provides important information (Costa et al., 2019; Overgoor et al., 2020). Research highlights its ability to increase the levels of personalization achieved and how it affects customer satisfaction and, consequently the increase in customer loyalty. To better understand the impacts of this technology in this field, its analysis will be divided in three: Marketing applications, Impact on Marketing Management and the impact on Customer-brand relationship.

1.2. Focus and scope

Considering that not all content produced in business schools is relevant for companies, due to the disconnection between the theory and practice (Costa et al., 2019), I, in this research, want to understand if companies in Portugal are introducing this technology (Schrettenbrunnner (2020) describes it as essential to perform in complex data spaces), if they use it in marketing, what lead to this decision (the main reasons for AI introduction) and the results (challenges in AI adoption and marketing transformations). I intend to comprehend how the interviewees perceive this technology (if they considered it as essential for the company's survival). I also want to compare the state of the introduction of this technology in the Portuguese market with the literature and other markets.

1.3. Questions and Objectives

This research intends to contribute to the scientific knowledge in Business- Its purpose is to understand if the (interviewed) companies located in Portugal followed the trend of Artificial Intelligence introduction (if the companies they work for use it and its main benefits and challenges), how the interviewees perceive this technology (if they consider it as a competitive advantage), if companies deploy AI in Marketing (how they use it and the results of the introduction), through the following general objectives:

- 1) Understand if companies in Portugal currently use Artificial Intelligence
- 2) Understand the impact of Artificial Intelligence on Marketing

It is possible to identify a set of specific (theoretical and empiric) objectives. The theoretical level aims to identify the basis for the empirical aspect of this research, explaining and defining the operational concepts, like: the analysis of different Marketing AI applications, and the examination of Artificial Intelligence introduction's impact on Marketing. While the empirical level intends to further research the impacts of the introduction of Artificial Intelligence on Marketing, through the different perspectives present in the literature review, allowing us to reach the Research questions:

- To understand why companies in Portugal use Artificial Intelligence, what are the obstacles, challenges and reasons to introduce this technology. Also understand how the perception of AI influences its adoption.
- To analyse if pressure takes a part in the decision to introduce AI.
- How marketing changes with the introduction of Artificial Intelligence
- The impact on Customer-Brand Relationship.

1.4. Overview of the Structure

To achieve the objectives and to answer to the research questions, this research has the following structure: the Introduction that corresponds to the Chapter I, where I present the Topic and Context, Focus and Scope, and Questions and Objectives. The literature review encapsulates Chapter II and III. The second chapter studies the different perspectives about Artificial Intelligence (explaining its introduction on business, the factors for its popularity, its definition, the description of its key components, the discussion of the possibility for multiple intelligences, the distinction between different learning paradigms, and considerations for AI introduction). The third chapter focuses on Marketing AI applications and comprises Implications on Marketing, and the impact on Marketing Management and on Customer-Brand Relationship.

In Chapter IV, I define the Theoretical Approach and present the research questions and their basis on the literature review, necessary to reach the empirical part of this research. Chapter V refers to the Methodology, and specify the research model used, followed by

the description of the sample. Result Presentation and Discussion are in Chapter VI. Here, I analyze the data extracted from the interviews and compare it with the perspectives from different authors present in the literature review and reach to a conclusion. Thus, the final chapter (Chapter VII) consist of the research's final considerations, its contributions to the topic, its limitations, and the suggestion for future research.

Chapter II – Artificial Intelligence

2.1 Artificial Intelligence's Introduction in Business

When companies introduce Artificial Intelligence, its duality becomes apparent. Mogaji et al. (2020) see it as both a capability and a technology disruption. The constant digitalization process influences how markets develop (Ping et al., 2019), change competition dynamics (Peyravi et al., 2020), and affects customer behaviour, their relationship with the brand and customer service (Davenport et al., 2020; Peyravi et al., 2020; Ping et al., 2019).

Artificial Intelligence introduction makes domain fixed predictions' lack of accuracy and relevance in today's environment more visible (Schrettenbrunnner, 2020). However, it provides tools to create new business processes and models (Peyravi et al., 2020), enables creativity and innovation in problem-solving (Eriksson et al., 2020), and is an asset to the decision-making process (Costa et al., 2019). According to Kiruthika & Khaddaj (2017), the areas companies are implementing this technology are Sales, Risk management, Customer Service, HR, Communication and Marketing.

Before introducing this technology, according to the literature review there are multiple factors that a company should consider, the main are: data related, the type of service and demand, how customers perceive the service, customer characteristics, the type of tasks automated, the service nature, the types of leadership, and the different service processes. Insight (2020) and Mogaji et al. (2020) argue that Artificial Intelligence might not be the best solution for companies that do not produce enough data and do not engage with enough frequency with their customers, because these two factor influences the degree of service differentiation.

Huang & Rust (2021b) believe that the service type influences the customer's willingness to use this technology. The authors also add that routine tasks should be automated to transform the service in self-service or mass production. Davenport et al. (2020) argue that if the task is subjective in nature, involving intuition or affection, because they feel AI lacks the understanding of human emotions necessary, and tasks that might have consequences, customers are less comfortable to use Artificial Intelligence. Grandinetti (2020) distinguishes two ways companies use robots: a tool to help employees or replacing the employees and interacting directly with the customer.

Huang & Rust (2021b) state that if the service has homogeneous demand and low potential in the customer lifetime value it should be automated. Davenport et al. (2020) point out how customers have higher expectations and standards for AI. The authors also add that how customers perceive risk affects their propensity to use this technology; customers that are more risk adverse are less likely to use this technology. Because women usually are more risk adverse than man, following this logic, woman are less likely to want to use this technology.

Huang & Rust (2021b) suggest that Companies should replace tasks that require lower levels of intelligence (mechanical, routine, and lack variance) first. This process is more straightforward in the manufacturing industry considering the tasks nature. HI and AI should perform “Thinking” tasks- examples: Managers use business analytics to support their decisions. When tasks are more intuitive in nature AI cannot perform without human intervention. Mostly HI performs “Feeling” tasks, it can be augmented at a lower level by AI applications (Like Chatbots).

The service nature varies in the utilitarian-hedonic continuum and the transactional-relational continuum. When the service is closer to the utilitarian end, the benefits provided to the customers are functional, non-sensorial and instrumental, examples: Amazon’s cloud data service, (IBM) Watson’s financial advice. When the service leans towards the hedonic end, it provides sensory benefits (fun, pleasure, etc.), mostly present in video games. When the service is transactional customer relationship will not factor, meaning the company will benefit by introducing this technology. While relational services benefit from the relationship with the customer. There are different combinations (Huang & Rust, 2021b).

Table 1 - Different combinations of services

Utilitarian-Transactional Service
Utilitarian-Relational service
Hedonic-Transactional service
Hedonic-Relational service

Source: Author’s Elaboration

Huang & Rust (2021b) show how different types of leadership (Cost, Quality and Relationship Leadership) should use Artificial Intelligence. In Cost Leadership the objective is to automate the service in order to reduce costs, its objective is to automate

the maximum processes as possible. AI characteristics make it suitable to introduce it here. Quality Leadership's objective is to offer a premium quality customer experience. And Relationship leadership focuses on the relationship intimacy for to achieve customer satisfaction. In the last two leadership styles companies can use AI to achieve personalization.

Service Processes are how companies provide/deliver a service to the customers. The service outcome depends on the interaction between the customers and the company. So every time a company engage with the customer creates value. Three stages in the Service process: Creation, Delivery and Interaction. The stages do not necessarily follow a sequence and not every service has a clear distinction between the stages- for example, in haircutting the stages happen simultaneously.

At the Service Delivery stage the company should ask: How to efficiently deliver the service? Shipping, Delivery and Payment are repetitive routine tasks the use of AI to automate it increases its efficiency and convenience. The key issue in Service Creation is how to create value for the customer. Companies should use predictive analytics to know customer preferences, computing analytics to develop new services and data mining (or other pattern recognition technologies) to find likeminded customers and create a personalized service.

Companies can use Deep learning to segment and provide different campaigns to different customers. Service Interaction, the key factor at this stage is how to communicate with the customer? To introduce AI at this point, it would require this technology to recognize, understand and respond accordingly to human emotions. This is the most important stage of the service and usually is the one with less AI involvement. This category is divided into two subcategories: Marketing communication: companies need to connect emotionally with the customers as a way to differentiate themselves from the competition. And Post-purchases service: often customers are emotionally charged (often use customer service as a way to complain) and require AI to handle it (Huang & Rust, 2021b).

According to Mogaji et al. (2020), the literature concerning Artificial Intelligence focus on the benefits of this technology introduction, adding that digital technologies offer new superior products and services that are able to meet or even exceed customer

expectations. This research would not be complete without listing the benefits and challenges of this technology.

Table 2 - Main benefits and challenges of AI introduction

Benefits	Challenges
Provides important strategic information	
Service Personalization	Data related (collection, management, storage)
Saves costs	Personnel
Improve accuracy	Cost of investment
Faster at processing data	Customer high expectations
Allows the development of new capabilities	Job Transformation/ Human Replacement
Increase service convenience	

Source: Author's Elaboration

The main benefit of Artificial Intelligence introduction is its ability to provide important strategic information (Schrettenbrunnner, 2020): about the customers (their preferences, purchase patterns)- the company later uses it to personalize the service, resulting on the increase customer satisfaction and loyalty (Ameen et al.,2021; Capatina et al.,2020; Costa et al., 2019; Davenport et al.,2020; Grandinetti,2020; Huang & Rust, 2021; Kiruthika & Khaddaj, 2017; Mogaji et al., 2020; Peyravi et al., 2020); about the markets, helping the company to understand problems and opportunities (Capatina et al.,2020; Costa et al.,2019 Peyravi et al., 2020).

Other well known benefit of this technology's introduction relates to costs savings (Ameen et al.,2021; Costa et al.,2019; Grandinetti,2020; Kiruthika & Khaddaj, 2017; Overgoor et al, 2020; Peyravi et al., 2020): due to its ability to be scalable (Ping et al.,2019; Peyravi et al., 2020), can improve accuracy (Overgoor et al, 2020; Peyravi et al., 2020), while processing data faster than humans (Ameen et al., 2021). This technology improves organizational performance (Costa et al., 2020).

Allows the company to develop new capabilities: by connecting the departments within the companies, it increases the company's agility (Kiruthika & Khaddaj, 2017; Schrettenbrunnner, 2020). Artificial Intelligence's learning ability makes the company

to be more flexible (Ameen et al., 2021). This technology also allows companies to train business, due to its forecasting ability. (Bruyn et al., 2020; Kiruthika & Khaddaj, 2017; Schrettenbrunnner, 2020).

When companies use it in Service, this technology increases the service convenience. Ameen et al. (2021) accredit this result to the following characteristics: service availability (service becomes available 24/7), provides real-time information to support customer journey, can proactively engage with customers, and can reach a lot of customers simultaneously. Ping et al. (2019) highlights the fact that AI reduces wait times. Artificial Intelligence also reduces HI efforts, helps them in their daily tasks (Costa et al., 2019), reliving them to handle more complex issues (Ping et al., 2019).

The main challenges are related with data: Ammen et al. (2021) argues that because Artificial Intelligence depends on large amounts of data to be efficient, data collection could make customers uncomfortable. Is a shared process- Customers allow companies to collect, storage and manage their data, and in exchange they expect Companies to use it well. Data is an asset and should be treated as so (Insight, 2020). Insight (2020) and Mogaji et al. (2020) remind us that data needs to be carefully chosen and managed, so that the information is insightful and meaningful.

Ethical aspects are a major challenge (Mesquita, 2017; Lobo, 2017): the use of private behaviour and preferences to personalize the offer and target the customer can be a form of manipulation (Kiruthika & Khaddaj, 2017; Mogaji et al., 2020). Customers should be aware that companies are using their data (Kiruthika & Khaddaj, 2017), they should consent to the data collection the information should be anonymous and it should not be sold (Kiruthika & Khaddaj, 2017; Mogaji et al., 2020).

Personnel (Kiruthika & Khaddaj, 2017; Schrettenbrunnner, 2020): the company needs to hire specialists and that the employees (no matter the areas) need to know how the system works. Knowledgeable people need to put the system in place. The authors also highlight that shareholders must know the risks of implementing this technology, especially due to the increase in overhead costs (Kiruthika & Khaddaj, 2017). The cost of the investment (Mogaji et al., 2021), is the main reason small companies might not be able to implement it. We must remember that the cost of the investment is not only the cost of this technology- is the cost of the components necessary for AI to work- Hardware, Software, etc. (Kiruthika & Khaddaj, 2017).

When companies use Artificial Intelligence in service to engage directly with their customers, the lack of interaction might make them uncomfortable and result in a negative customer experience (Ameen et al., 2021). Customers have high expectations and standards for this technology that are not always reasonable. Davenport et al. (2020) argue that people need to manage their expectations about AI, because even though it reduces human error does not mean that everything will happen perfectly. Managers are included; they cannot expect to see the effect of the introduction immediately (Insight, 2020). Kiruthika & Khaddaj (2017) consider the introduction of this technology as an important source of competition, but advise companies to find a way to avoid reaching the saturation point.

Many researchers are worried that the introduction of Artificial Intelligence in companies could lead to human replacement (Safarti, 2016), especially considering the fact that research is looking at it as an end-to-end solution rather than just a tool to help (Xu et al., 2020). Eriksson et al. (2020) states that the company must question if AI is can solve every issue and if the company can introduce it in every area. The authors add that, at this point HI still has the “upper hand” in activities that involve creativity, imagination or intuition.

According to Grandinetti et al. (2020), the “corporate reality” is the use of HI to fill the gaps in AI abilities, for example when it comes to relate with customers at an emotional level. The author believes that the replacement depends on the task performed. Davenport et al. (2020) also believe that companies will not fully replace humans but will use Artificial Intelligence to augment HI abilities, a Human + Machine reality (as IBM's CEO described). Hollebeek et al. (2021) also believes that the replacement of humans for machines depend on the task, while Peyravi et al. (2020) argues that just because AI can perform a task does not mean that it will.

Costa et al. (2019) adds that despite being a great tool, Artificial Intelligence has its limitations when it comes to understanding human emotions, being less likely to fully replace humans in tasks that involve a social skill. However, AI can replace humans in repetitive tasks but supervision would still be needed. Similarly, Rivera Estrada & Sánchez Salazar (2016) state that when considering the possibility of human replacement, the first question to ask is what is necessary to perform it, consider HI and AI qualities related with the performance, only after to make a decision.

Huang & Rust (2021b) highlights the social implications of human replacement, arguing that the use of AI to achieve standardization results in the displacement of “unskilled” employees and leaves the question- where will they go? How to retain and relocate them? Human biological emotions are something that AI still cannot mimic. If machines would evolve to become truly emotional, AI will become truly dominant in all levels of intelligence (Huang & Rust, 2021).

2.2 Artificial Intelligence's Popularity

According to Ameen et al. (2021), companies are increasingly adopting this technology. Xu et al. (2020) believe that AI introduction in business will be guaranteed, and the only question that remains is how far they will take it. According to the same authors, the number of researchers looking at this technology as an end-to-end solution, and researching its full potential and limitations, is increasing. Companies use Artificial Intelligence in daily operations (Costa et al., 2019; Peyravi et al., 2020), usually present through data mining and represents an essential part of the decision-making process, providing strategic information (Costa et al., 2019).

When discussing how widely spread Artificial Intelligence applications are in areas and products, instead of delaying advancements in some areas, Paiva & Prevedello (2016) argue that this dispersion acts as a catalyst to other fields. Peyravi et al. (2020) add that this phenomenon made Artificial Intelligence quotidian. To illustrate their argument, the authors highlight the presence of this technology in the following applications: virtual assistants (Siri and Alexa), music streaming (Spotify and Pandora), facial recognition (Haystack), home solutions (Nest), financial advising (Olivia), service delivery (Uber and Bolt), and travel (Mezi). Grandinetti (2020) and Kiruthika & Khaddaj (2017), when discussing the introduction of Artificial Intelligence on products, believe that this trend will continue since it makes their product more compelling for customers.

Paiva & Prevedello (2017) assign the popularity of Artificial Intelligence to the following factors: data abundance, Artificial Neural Networks development and cheaper hardware. Overgoor et al. (2019) base it on big data development, new AI techniques, and advances in computing power. Huang & Rust (2021) argue that Artificial Intelligence importance is due to the increase in computing power and lower computing costs, the big data availability, and the advances of machine learning models. Mogaji et

al. (2020) consider the emergence of big data and advances in computing power as the key factors necessary for its introduction. Eriksson et al. (2020) highlight the importance of Machine Learning and the amounts of data available for Industry 4.0 development.

Table 3- Factors that explain Artificial Intelligence Introduction

Factor	Explanation
Amounts of data available	To highlight how important data is in AI systems, Paiva & Prevedello (2016) compare it to coal and Artificial Intelligence with electricity. Data is an asset (Eriksson et al., 2020; Hollebeek et al., 2021), and to access large amounts of it is a source of competitive advantage (Bruyn et al., 2020). Artificial Intelligence relies on large amounts of data to learn (Hollebeek et al., 2021) since the algorithm's accuracy depends on the data collected. The previous major challenge in Artificial Intelligence introduction was the lack of data and its difficulty to find (Overgoor et al., 2020), which improved with the appearance of the Internet and Smartphones that allow the production of large amounts of data (Grandinetti, 2020).
Artificial Neural Networks (ANN)	Paiva & Prevedello (2016) argue that Artificial Neural Networks complement other machine learning techniques. According to Costa et al. (2019), Artificial Neural Networks allows us to model how the brain performs tasks in the way that knowledge comes from experience resulting from a learning process that allows knowledge accumulation. Artificial Neural Network design inspiration is the human brain. A Neural Network has three layers: the input layer, the intermediate layer and the output layer. Each layer is connected, and its output serves as input for the following one (Costa et al., 2019). The majority of Business Applications uses deep neural networks to solve complex predictive tasks. There are three types of ANN- Multilayer Perceptions (MLP), Convolutional Neural Networks (CNN), and Recurrent Neural Networks (RNN). MLP is the simplest form of feedforward Neural Network. This universal model is ideal when the number of predictions is well defined and known in advance. CNN is a feedforward Neural Network with at least one convolutional layer, can immediately identify patterns in the data, regardless of its position. Marketing uses it to predict customer churn. RNN uses the output of a time step as the input for the next, allowing the neural network to keep information to use in future predictions. Marketing uses it to predict behaviour sequences (Bruyn et al., 2020).
Big data	According to Lobo (2017), the exponential increase of storage ability in the last decades led to the creation of Big Data. Big Data creates statistical data from the storage of information.
Computing power	Cheap Scalable Computing Power increased the ability to store exponentially in the last decade (Lobo, 2017). It makes training cheaper and faster (Overgoor et al., 2019). Nowadays, laptops sold have the same processing ability as a

	2000s supercomputer (Paiva & Prevedello, 2017).
Machine Learning	Machine Learning (ML) is a type of algorithm able to learn and, consequently, adapt through a trial-and-error process with little or no human intervention. It can discover patterns in data, use them to make predictions or make decisions under uncertainty. Safarti (2016) does not distinguish between Artificial Intelligence and Machine learning.
Deep Learning	Safarti (2016) believes that Deep Learning makes algorithms more efficient. It trains the computer to decipher natural language, and it is used by Google Translate and Apple's Siri. Deep learning is a subclass of Machine Learning that incorporates ANN. Deep learning uses multiple layers for data processing and transformation, similar to human thought-processing and decision-making, where every layer draws output from the previous as impute. Deep in deep learning indicates the number of layers used to transform data. To be deep learning, the Credit Assignment Path (CAP) has to be more than two chains of connections to transform input into output (Hollebeek et al., 2021).

Source: Author's Elaboration

2.3 Artificial Intelligence Definition and Key Components

According to Rivera Estrada & Sánchez Salazar (2016), Artificial Intelligence is the product of our search for perfection, getting machines close to the human mind. Despite its popularity, defining Artificial Intelligence is challenging. Research has not reached an agreement on the meaning of this concept yet (Xu et al., 2020), leaving Artificial Intelligence lacking a concrete definition (Peyravi et al., 2020) and remaining a fuzzy concept (Bruyn et al., 2020).

The issue begins with a multitude of different definitions, varying from the degree of inclusivity. Most commonly, research refers to Artificial Intelligence as the intelligence demonstrated by machines or by highlighting its ability to perform tasks usually performed by intelligent people. This definition, however, does not bring clarity to the subject. When we do not set parameters of intelligence, they will depend on personal understanding. It can be defined so loosely that simple regression analysis is Artificial Intelligence or restrictive that it does not exist yet. Considering that as soon as we understand, master, and widely use these techniques, they no longer are a part of the AI realm, like what happened with techniques from the 70s and 80s, such as expert systems or OCR (optical character recognition). It makes AI understanding much harder (Bruyn et al., 2020).

Many define Artificial Intelligence through its characteristics: the ability to perceive the environment, to act based on its perception, to adapt to the environment (Eriksson et al., 2020; Overgoor, 2019), its goal-directed behaviour (Ameen et al., 2021; Eriksson et al., 2020), and its ability to learn (Davenport et al., 2020, Mesquita, 2017; Huang & Rust, 2021). Considering all the problems above, I will define Artificial Intelligence as computational agents that replicate characteristics of Human Intelligence (Ameen et al., 2021; Davenport et al., 2020; Huang & Rust, 2022b) in problem-solving, planning, and learning, while autonomously creating knowledge. The advantages are: confine Artificial Intelligence into three tasks, do not claim AI as “intelligent”, and restrict this concept for algorithms that create knowledge without HI interference (Bruyn et al., 2020).

Quan & Sanderson (2020) divide Artificial Intelligence key components into two categories: open-source platforms and Artificial Intelligence core technologies. Open-source platforms are essential for the development of other technologies. The authors offer the example of Hadoop, an open-source software platform, which facilitates data management and provides the ability to support substantial data sets, processing and storing. Hadoop served as a base for Salesforce, a cloud-based customer relationship management (CRM).

There are three types of Artificial Intelligence core technologies: algorithms, technologies related to big data and computing power technologies. Algorithms, like natural language processing, machine learning, and deep learning, help to build software. Because Algorithms need massive amounts of data, technologies related to big data, like, data assessment, management, analysing, and storing, are necessary. Computing power technologies are essential because Artificial Intelligence's self-connection function depends on it since Intel chips can run 10 trillion calculations per second.

2.4 Multiple Intelligences?

According to Huang & Rust (2021), our understanding of the concept changes as soon as we start admitting multiple types of Artificial Intelligence. AI becomes more than its thinking abilities and can be programmed to have multiple intelligences, bringing it closer to humans. Researchers divide Artificial Intelligence into different types using

the following criteria: The level of intelligence, the task performed, and the type of Intelligence.

Bruyn et al. (2020) and Eriksson et al. (2020) divide Artificial Intelligence, based on the system's level of the intelligence, as Weak and Strong AI. Kiruthika & Khaddaj (2017) add Normal AI to the mix. Weak AI, also known as narrow AI, is a machine able to replicate logic, analyse large amounts of data and make decisions based on it. Examples of this type of intelligence are machine learning and natural language processing (Eriksson et al., 2020). According to Bruyn et al. (2020), most machines demonstrate this type of intelligence. Most of them are programmed to perform restricted, well-defined and specific tasks and cannot learn outside their programmed domain.

On the other side of the spectrum, Strong AI, according to Eriksson et al. (2020), is a machine that has a conscience and can think. Bruyn et al. (2020) define it as a machine able to perform any task HI can. However, both authors agree that this type of intelligence does not exist yet, and the consensus is that we are decades away from achieving it. Kiruthika & Khaddaj (2017) uses the terms Weak, Normal and Strong to characterise AI by its ability to match/exceed human thought processes with little or no intervention.

Peyravi et al. (2020) uses a different terminology but maintains the idea of the previously cited researchers. The authors divide AI into Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI), and Superintelligent Artificial Intelligence (SAI). The division is done based on the level of intelligence- Weak, Strong and Super strong. Although Davenport et al. (2020) also use intelligence's level as criteria, its division is different. For them, AI development happens in a continuum with two ends, task automation and context awareness.

Task automation, present in standardised, rule-based AI applications, requires consistency and logic. When the context has predictable outcomes and clear rules, the use of task automation is favourable. Some examples of applications with this type of intelligence are Pepper, Deepblue and Watson. Davenport et al. (2020) believe that its characteristics might make its introduction challenging for the companies to set up the initial AI applications, and for this reason, some companies rely on companies like Infinia ML, Noodle, Accenture and Deloitte to do it.

Hollebeek et al. (2021) divide Artificial Intelligence, based on the tasks it performs, into three types: Robotic Process Automation (RPA), Machine Learning (ML) and Deep Learning (DL); and Huang & Rust (2021) divide Artificial Intelligence into three categories Mechanical, Thinking and Feeling AI. For the authors, Artificial Intelligence development is cumulative.

Robotic Process Automation (RPA) is the (full/partial) automation of labour-intensive processes. It is rule-based automation that uses linear algorithms to respond to simple questions through sensor-based signals. This AI category does not adapt nor learn. Machine learning (ML) algorithms can learn and adapt with little to no human intervention. ML can continuously adjust its actions and improve its overall performance. Deep Learning (DL) is a subclass of Machine Learning. It uses multiple layers for data processing and transformation, bringing it close to human thought-processing and decision-making.

Mechanical AI automates repetitive and routine tasks. Companies use this type of AI to achieve standardization. It accommodates service variability while providing a reliable and consistent outcome. Mechanical is the lowest level, and its adaptation is minimal. Thinking AI achieves personalisation. This AI type can predict new markets, create new services, find new customers, and personalise the service. It can recognise patterns and similarities in the data. Thinking AI is more advanced than Mechanical AI. This type of AI can learn from data. Feeling AI aids the relationship with the customer. True feeling AI does not exist yet. Systems cannot recognise and respond accordingly to human emotions.

Eriksson et al. (2020) and Capatina et al. (2020) divide it into three categories, considering the type of intelligence a system displays, Analytical, Human-inspired, and Humanized AI. Analytical AI displays characteristics of cognitive intelligence and can use past experiences to make decisions about the future. It is the most common type of AI in companies. Human-Inspired AI is a combination of cognitive and emotional intelligence characteristics. It is trained to identify emotions when engaging with customers. Humanized AI is a combination of cognitive, emotional, and social intelligence. This type of intelligence does not exist yet.

2.5 Learning Paradigms

According to Grandinetti (2020), Huang & Rust (2021b), Kiruthika & Khaddaj (2017), Peyravi et al. (2020) Safarti (2016), what allows Artificial Intelligence to increase performance efficiency is its self-learning ability. Bruyn et al. (2020), Mogaji et al. (2020) and Overgoor et al. (2019) list the three ways a machine can learn: Supervised, Unsupervised, and Reinforced Learning.

In the Supervised Learning paradigm, there are two data sets: training and testing data. The neural network learns through a collection of examples (training data), where the analysts know inputs/predictors and outputs/target variables. The second set, testing data, is where analysts evaluate the performance by comparing the Predicted label and the True label (Bruyn et al., 2020; Mogaji et al., 2020; Overgoor et al., 2019). According to Bruyn et al. (2020), the difference between deep neural networks and traditional techniques, such as logistic regression, support vector machines, classification trees, or linear regression, is that the first can automatically identify higher-level constructs on data. It involves some degree of human effort (Overgoor et al., 2019). Many supervised learning applications need to be manually labelled (Bruyn et al., 2020).

The Unsupervised Learning process involves unlabeled data. The machine learns from the data available (training data) without pre-existing labels and has to figure patterns alone (Bruyn et al., 2020; Mogaji et al., 2020; Overgoor et al., 2019). According to Bruyn et al. (2020), most unsupervised models in statistics are hierarchical clustering, multidimensional scaling, factor analysis, and k-means segmentation.

Like the previous learning type, Reinforced learning also does not use labelled data; however, this machine receives feedback after finding patterns in the data. Feedback allows it to adjust its actions (Mogaji et al., 2020; Overgoor et al., 2019). Overgoor et al. (2019) provides the following examples of reinforced learning Q-learning and adversarial networks.

According to Overgoor et al. (2019), ML algorithms do not necessarily learn using one of the methods presented above. It is possible for a Machine Learning algorithm to use a combination of Supervised, Unsupervised and Reinforced Learning. It also has another aspect in the learning process- can take place on-line or off-line. The difference between

online and offline learning is that, in the first one the machine learns one observation at the time and, in the second it uses all the data available to create a model; online learning is faster and more efficient but less accurate than offline learning.

Bruyn et al. (2020) and Mogaji et al. (2020) draw a parallel between the different types of learning and how they affect Marketing. Marketing tends to use more supervised learning applications, while reinforced learning applications tend to be less- the examples of use of reinforced learning algorithms in Marketing are multi-arm bandit problems (Bruyn et al., 2020). Artificial Intelligence allows companies to personalize the communication with the customer, to optimize the Marketing Mix, companies are able to come up with a product that satisfy customer needs, with an appealing price, delivered in the right place and promoted effectively. According to Mogaji et al. (2020), Artificial Intelligence will improve customer experience.

Chapter III – Artificial Intelligence applied to Marketing

Considering AI's increasing role in Marketing (Peyravi et al., 2020), Dumitriu & Popescu (2020) point out the necessity to adapt to this technology. Research considers Artificial Intelligence a driving force in Marketing, adding that recent developments in this technology make its introduction crucial for this field (Peyravi et al., 2020). Some argue that Marketing is the principal beneficiary of AI introduction (Davenport et al., 2020; Peyravi et al., 2020) and, for this reason, should lead the discussion surrounding this technology (Davenport et al., 2020).

Overgoor et al. (2019) define Marketing AI as the development of agents that suggest and take the best marketing actions to achieve the best outcome, based on the information available about the company, competitors, and customers. Researchers measure Artificial Intelligence's impact on Marketing considering three categories: Implications on Marketing, impact on Marketing Management and Customer-Brand Relationship. In the Table below there are listed different examples of Marketing AI applications found in the literature.

Table 4 - Examples of Marketing AI applications

Siri, Cortana, Alexa (Voice assistants)
Netflix movie recommendations
Amazon's Cross Selling Recommendations
Service Robots (Pepper, LoweBot)
Shipping-then-Selling model
Smart Products and Domestic Robots (Roomba)
MacDonald's robots that deliver food
Customer service bots
Amazon delivery drones
Amazon 1 click buy
Amazon anticipatory shipment
Netflix uses it to decide the next project to develop
GAP uses it to predict next fashion trend
Harley Davidson's Albert (marketing AI platform) adjusts strategy according to the customer
Facebook's project that combines AI and VR to enhance Customer Experience
Deepmind (Google) and Watson (IBM) use a combination of augmented reality and enhanced journeys for a better customer experience.

Source: Author's Elaboration

3.1 Implications on Marketing

Grandinetti (2020) argues that this technology will change the way people conceive and conduct Marketing. Even though, as the author states, the belief that AI would produce radical changes in Marketing is not recent, its popularity is. Grandinetti (2020) questions the motive of this phenomenon and if it is the result of an excess of optimism regarding this technology abilities. But, when considering all the successful Marketing AI applications, the author believes it to be the opposite.

According to Peyravi et al. (2020), although early principles and concepts could deal with Marketing issues, the main AI usages and implementations in this field have arisen only in the last decade. AI deployment challenges the traditional- affects traditional Marketing management activities, from demand-forecasting to post-purchase service (Grandinetti, 2020). Forces the revisions of defining theories, the established methods have come under criticism and are deemed useless in the business environment (Mogaji et al., 2020). According to Peyravi et al. (2020), companies, in practice, use AI to update the methods.

Marketing changed over the years (Peyravi et al., 2020). Recently, with the introduction of Artificial Intelligence, Mass customization assumed a role at the centre of Marketing Theory. Marketing became a customer need's management process (Grandinetti et al., 2020). The digitalization process acted as a catalyst for the transformation in this field, not only inspire the current trends in AI introduction but also allow the development of new types of Marketing, for example, Online, Internet, Content and Digital Marketing (Peyravi et al., 2020). According to Peyravi et al. (2020), the three main applications of AI in Marketing are Data-Driven, Personalized, and Multichannel Marketing.

Data-Driven Marketing uses Artificial Intelligence to understand customer behaviour and allows campaign optimization. Can engage with customers and use the real-time data to adjust strategy and future behaviour predictions. Allows to sustain or gain competitive advantage by analyzing the competitors offer and create a more compelling one. Can identify market trends and assess the impact of the brand. Used on Cortex platform, Linkfluence Raderly software, and Google thinks AI tools.

Personalized Marketing associated with content customization suggests optimal interaction time and matches the customer to its profile. It uses AI tools like

Socialbakers and OneSpot for the personalization of e-mails and websites. Multichannel Marketing creates, optimizes, monitors and delivers multichannel Marketing campaigns to maximize reach to potential customers. Artificial Intelligence can engage with the customers and perform management tasks, like budget planning and optimization, channel recommendation, targetting, and segmenting. AI uses Natural Language Generation (NLG) to create social media content and talk with customers (Peyravi et al., 2020).

Ameen et al. (2021) argue that Chatbot, content generation, and customer insights are how retailers most commonly use this technology. Peyravi et al. (2020) say that Marketing uses AI in the decision-making process, Marketing analytics, Forecasting, Personalization, Profiling, and improving customer experience. The authors add that voice recognition, robotics, natural language processing, visual recognition, and intelligent computing are the AI tools used by Marketing.

3.2 Marketing Management Impacts

Overgoor et al. (2019) define Marketing Analytics as the use of quantitative data on decision-making. Huang & Rust (2021) propose a model to apply the different types of Artificial Intelligence to Marketing Research. The first step, the data collection, involves routine and repetitive tasks, like data sensing, tracking, and compilation. Connected devices make it easier to collect data about customer activities and their environment. Internet of Things (IoT) virtualizes product consumption and usage. Recent studies show how AI can collect data efficiently from repetitive and routine tasks that produce a high volume of market data.

Marketing Analytics use Thinking AI. It can identify competitors in well-defined markets or new markets and gain insights that increase competitive advantage. The authors suggest the use of Supervised Machine Learning in mature markets that are structured and stable and use Unsupervised Machine Learning in new markets that are unstable and unknown. Predictive analytics allow the prediction of marketing trends and customer preferences. GAP uses it to discover the next fashion trend and Amazon to predict future purchases and anticipatory fulfilment. Deploy Feeling AI for customer understanding, who they are, what they want, the current solutions. Customer

understanding differs from market analytics because it deals with emotional data, feelings, emotions, attitudes, and preferences.

Huang & Rust (2021) demonstrate that the use of this technology is helpful in both loyal and new customers. In Existing customers, companies can understand if they are happy with the product or service and why. For potential customers, the AI deployment could make companies comprehend if the customers are pleased with the offer from competitors. RedBalloon uses Albert AI to reach new customers, and Harley Davidson uses AI to identify potential customers and personalize the Marketing campaign.

Costa et al. (2019), Huang & Rust (2021), Overgoor et al. (2019), and Peyravi et al. (2020) believe the addition of Artificial Intelligence to Marketing Strategy would increase efficiency and generate large amounts of valuable strategic information that would not be available otherwise. Peyravi et al. (2020) believe Artificial Intelligence introduction in strategy takes marketing strategy to another level, improves execution, planning and forecasting activities and increase productivity and effectiveness overall. Huang & Rust (2021) argues that companies can introduce this technology at every stage of the Marketing Research-Strategy-Action cycle.

According to Overgoor et al. (2020), AI, ML and data analytics can help strategy, making better decisions. Classical (statistical) models are a complement for ML and have a vital role in Marketing. Statistical models include Simple Methods, like a regression, a mathematical procedure that studies the relationship between the explanatory and outcome variables, and more complex models, like support vector machines and casual state modelling. Support vector models are used to analyze data to use for classification and regression. ML is used to optimizing the parameters to allow maximum separation between classes and can solve regression problems. In addition to these tools, computational modelling can complement AI. The most common is ABM (Agent-Based Modelling). ABM by itself is not AI. It is a modelling framework. ABM does not necessarily need to use AI but often does. Agent's actions can be calibrated and optimized by Machine Learning.

The authors adapted the CRISP-DM framework to apply Artificial Intelligence to business processes. It helps managers make the decision when to use AI and ML to solve complex marketing problems. The authors chose this framework because of its well-defined and accepted stages, Business understanding, Data understanding, Data

preparation, Modelling, Evaluation and Deployment. To decide whether to use Artificial Intelligence is necessary to consider the objective (marketing action), how to achieve it, and how to measure the success. Data understanding is critical for every Marketing AI project. It has the following steps: data collection, classification (by importance), description, exploration and verification of quality.

Data preparation involves data processing to use in modelling. How to build a model? Companies need to choose an approach- neural networks, linear regression, ABM- that best suits the problem. Then, select the testing criteria, how to assess the performance. Search for the best biases-variance composition. The trade-offs are a way to find the appropriate complexity to get more accurate predictions and minimize the source of error. Modelling is an interactive process -the model could be re-trained and re-assessed until the results are satisfactory. After the creation of the model, we have to evaluate the performance. The final step is to deploy it.

Mogaji et al. (2020) demonstrate how the elements of the marketing communication process, Targeting, Personalization and Delivery, can integrate Artificial Intelligence. Companies recognize the importance of digital marketing and its ability to build relationships with the customers, to discover, analyze and predict customer behaviour, and consequently provide them with the fitting service. An indicator of the campaign effectiveness is Customer Satisfaction. Peyravi et al. (2020) also discussed the impact of AI introduction on Product, Price, Promotion and Place.

Table 5 - How AI affects Targeting, Personalization, Delivery, Product, Price, Promotion and Place

Targeting	AI gather, aggregates, and analyses large amounts of individual data-customer behaviour online: searches, reviews, interactions, allowing a better understanding of the target audience and its purchase behaviours. It helps companies to make informed decisions and creates a customized experience for every customer.
Personalization	Artificial Intelligence can personalize content based on customer data and produce more intuitive and relevant content. It can launch digital campaigns based on customer behaviour analysis and purchase history, intending to influence their purchase choices.
Delivery	Communication's last step is to deliver personalized content. Artificial Intelligence with customer information (location, demographic, behaviours, interactions, to name a few) can determine the best channel, best content, the right time and the frequency to engage with the customer. AI assist the company to deliver value across different channels and make suitable choices.
Product	AI allows hyper-personalization, the development of new products, and automates recommendations.
Price	Matches the price management and dynamic price to the customer profile.
Promotion	Personalizes communication, makes the experience unique.
Place	Increases the shopping convenience, makes processes faster and simple, 24/7 customer service, creates new distribution channels, and automates purchases.

Source: Author's Elaboration

Considering that more than 42 per cent of the world population is on social media, with the average person spending on average twenty-two minutes per day (Peyravi et al., 2020), social networks seem a good place for communication campaigns. Capatina et al. (2020) studied the introduction of AI on social media. The authors consider this technology highly effective in monitoring social media. AI allows companies to get the whole picture of what people talk about the brand in the comments (through sentiment analysis). Its personalization abilities transform the approach to the customers (using audience analysis) and help the company to recognize brand logos in social media content (by doing image analysis). AI tools optimize sentiment, audience and image analysis by identifying which content generates more customer engagement.

Table 6 - How to use Audience, Image and Sentiment Analysis in social media

Audience Analysis	Audience Analysis is a fundamental pillar of the social media Marketing Strategy, when companies combine it with AI they can control the message (when and how is said) to achieve the marketing goals. Different social media platforms host different targets, the platform has to be carefully chosen to achieve the maximum reach based on the content and when it is published. AI can track the users' interests and group people with similar ones- Audience analytics can provide visual reports on the member's clusters and the solution to increase customer loyalty.
Image Analysis	Text is not the only way to get information, and the photos shared on social media reflect behaviours, desires and needs that usually go unnoticed. This data has not yet been the focus of large-scale social media marketing studies. The authors believe that image recognition can be applied to any customer behaviour marketing field.
Sentiment Analysis	It has 3 levels: • Document level • Sentence level • Entity level

Source: Author's Elaboration

3.3 Impact on Customer-Brand Relationship

Peyravi et al. (2020) argue that current trends in AI introduction are related to the shift to the digital environment. One example of it is Customer Relationship Management (CRM). This category subdivides itself into three main components: Customer Service, Customer Experience and Customer Engagement's impacts. Recently, due to the pandemic, Customer Service importance is increasing and becoming more noticeable. Customers require higher levels of service personalization, and when companies cannot provide, they will have no problem buying from the competition. The fulfilment of customer's requirements has become increasingly challenging. To manage customer needs, companies require constant access to updated information and organized and fast systems.

Usually, "good" Customer Service entails trust, someone who knows us and our needs well, and we got what we wanted. Right now is impossible to cater this to every customer the brand has without Artificial Intelligence (Insight, 2020). Companies can also use it to differentiate themselves from the competition since it is increasingly hard to do it with products. However, to achieve it, they have to change the way they view it. Insight (2020) shows how to transform Customer Service from a cost to a revenue centre.

According to Insight (2020), Companies have a complete understanding of the customer when it knows prior issues and purchases history. This information could provide the opportunity to cross-sell or upsell when the time is right. Another critical aspect is trust. Every interaction is an opportunity to improve the relationship. A trustworthy employee solves the problem by providing valuable information in a timely fashion while demonstrating that they understand the customer and their needs. This type of employee can make purchase recommendations. How do we achieve it? Knowledgeable bots, and 360° information (using graph data and machine learning).

Companies use Artificial Intelligence to provide effective and engaging customer service. It increases the service's convenience, making it available 24/7, creates value by saving time, increases customer satisfaction and loyalty. AI, especially online, reduces or almost eliminates waiting times- the responses are immediate, while HI staff responses have a slower process, customers must wait in a queue to connect with the HI employees (Ping et al., 2019).

Depending on the levels of automation achieved, there are different types of services. Considering it, Ping et al. (2019) divide AI services into three types: AI-enabled services, AI-augmented services, and AI-performed services. In AI-enabled services, employees use Artificial Intelligence to assist them behind the scenes and in tasks like decision making and the customization of the service in real-time. In AI-augmented services, Artificial Intelligence interacts directly with the customer or frontline employees to assist them. In AI-performed services, Artificial Intelligence replaces the employee and interacts directly with the customer.

Customer Experience is the overall experience the customer has with a company based on previous experiences. Research distinguishes it in four elements: thinking, emotional, physical and sensorial, and social elements. Insight (2020) considers that customer service and customer experience are the areas that will have the most substantial impact. We can summarize customer experience by several How do I questions.

Table 7 - Description of the elements that comprise Customer Experience

Thinking Elements	Aspects related with the service functionality, speed, and availability.
Emotional Elements	Are more complex in nature because the variety in emotions - negative or positive.
Physical and sensorial Elements	It differs according to the context: online and offline. The latter involves features like light, layout, signs and artefacts (aspects of the store) and the first based on the technology used, the interface, and design.
Social Elements	Encompasses the influence other people, like friends and family, have on the customer. This category also involves the social/mental identity of the customer.

Source: Author's Elaboration

Ameen et al. (2021) propose a model to understand how AI can improve customer experience based on Morgan and Hunt (1994) trust-commitment theory and Parasuraman et al. (1994) service quality model. The authors examine how trust, perceived sacrifice, perceived convenience, personalization, service quality, and Relationship commitment affect AI customer engagement.

Table 8 - Description of the effects of Trust, Perceived Sacrifice, Perceived convenience, Personalization, Service Quality and Relationship commitment in Customer Engagement.

Trust	Trust is an attitude or belief that others would not exploit your vulnerabilities. Trust in AI-enabled services involves Trust in the brand and the process and purpose of AI. Recent studies show that Trust is a fundamental factor for AI acceptance and development. The authors believe that companies should communicate Artificial Intelligence's use in the early stages of introduction and a proactive manner. Studies show the link between Trust and Loyalty, when the customer trusts the brand, they are more likely to form a long-term relationship. Has a positive direct impact on Customer Experience.
Perceived sacrifice	Perceived sacrifice concerns what the customer abdicates to obtain the product/service. It includes money, time, effort, control loss, privacy loss, and lack of human interaction. Has a negative direct impact on customer experience.
Perceived convenience	Characteristics of a convenient service saves time, effort and allows mobility- and other purchase encouraging characteristics. The way convenience affects customer experience has been studied widely specially in the way waiting times affect it. Convenience in AI enabled services has 3 dimensions: - Service availability: AI makes the service available from anywhere 24/7 - Provides customers real time information-necessary to support the customer's journey - Proactive discussions with customers- and assist them through every

	stage of the customer lifetime cycle. Increases customer satisfaction, has a positive direct impact on Trust and a negative direct impact on perceived sacrifice.
Personalization	Personalisation, the information tailoring process to fit customer's needs, uses data mining techniques to generate higher interest while shopping. It is a fundamental element associated with AI-enabled services. Companies use Artificial Intelligence and Machine Learning to optimize this process and make more accurate predictions and suggestions. Ameen et al. (2020) highlight three dimensions: User Interface, Content and How to approach customers. Has a positive direct impact on trust and on relationship commitment & has a negative direct impact on perceived sacrifice.
Service quality	Service quality characterizes the difference between customer expectations and their perception of the service. It positively affects trust and has a negative direct impact on perceived sacrifice.
Relationship commitment	Relationship commitment results from positive experiences with a brand. When a customer has a relationship commitment with a brand is less likely to purchase from another brand. Recent studies argue that once a customer passed the initial stage of building brand commitment, the commitment can influence following experiences.

Source: Author's Elaboration

Even when AI is only used in the background performing tasks, for example, in warehouse operations or personalizing the service, it impacts the way customers interact with brands (Hollebeek et al., 2021; Insight, 2020). Though extreme personalization, Ameen et al. (2021) defend that Artificial Intelligence allows companies to reach the top one per cent of customers, worth eighteen times more than the average customer.

Hollebeek et al. (2021) studied how AI introduction affects Customer engagement. The authors tried to measure customer's reactions to AI services based on customer awareness, the type of service provided (tasks performed), and the customer's engagement style. Recognizing that when Artificial Intelligence is seamless, customers are less likely to understand that they are interacting with a machine, and their engagement will reflect it- the authors expect it to be quite similar to the one displayed in interactions with frontline HI employees. On the other hand, if the customer is aware of the use of Artificial Intelligence, the reaction depends on the remaining factors. Davenport et al. (2020) state that when customers are aware (that are communicating with bots) the purchase rate drop by seventy-five per cent.

In Transactional Interactions, the customer focuses on the functional exchange of benefits, generating low levels of engagement with a tendency to decrease over time.

Companies could easily automate it and would highly benefit from the decision. Relational Interactions come from the desire to interact with the brands. Companies would not benefit from the automation of this service, and the authors concluded that it would generate lower customer engagement compared with the use of HI employees. Hollebeek et al. (2021) argue that the customer engagement style also influences their reaction to this technology, concluding that its effects would benefit more customers with highly inactive engagement styles.

Similarly, Huang & Rust (2021) also concluded that companies would benefit from routine tasks automation, adding that the system could provide recommendations and counsel the customers as a post-purchase service. Grandinetti (2020) divided the applications interfacing with the customer into three categories: Shipping-then-Shopping Model, Service Robots, and Smart products and Domestic Robots.

Shipping-then-Shopping Model completely alters the purchase process. The company sends the item to the customer that only pays the ones they want to keep, returning the rest. StichFix, a multi-brand online retailer of fashion items, uses this model. Companies choose products based on the information provided by the customer, in this case, via a questionnaire about size, style and price preferences, combined with the purchase portfolio of similar customers. Artificial Intelligence's ability to learn from feedback allows it to improve the selection over time. This model's features are suitable for other sectors (other than fashion), and its basis, the idea to offer personalized recommendations in the online shopping context, is not new. Amazon and Netflix offer purchase recommendations for quite some time.

Collaborative Robots and Robots are spreading from factories through the rest of the logistic chain. Retail uses them in two scenarios: backstage to support frontline employees or to engage directly with customers. The growth in both seems promising. With the introduction of Artificial Intelligence, robots can perform complex tasks, make autonomous decisions, do data analysis, learn, customize the service and adapt. Service Robots can replace the frontline or work alongside them. Its main benefit is cost-saving.

The term Intelligent and Smart products, although used interchangeably, operate in different domains. Intelligence products work in the manufacturing and supply chain context, while Smart products function in consumer products. AI allows products to

become aware of their context and adapt to specific situations, different users and other products. With this in mind, Smart products can be highly customizable. This category includes Domestic Robots, robots that cater to domestic needs, like vacuum cleaners. These types of robots are not essentially different from service robots- the main difference is the context in which they perform their tasks. They share the dimension of mass customization on a large scale, achieved by the interaction between the artefact (Robot, Software, Product) and the customer.

According to Grandinetti (2020), the different categories can overlap, for example, Amazon Echo, a virtual assistant (Service Robots), a service inspired by StitchFix. Chatbots are Artificial Intelligence systems that interact directly with the customers through a text-based interface. Conversational agents, talk bots, virtual agents, conversational agents and Chatterbots are all different types of Chatbots (Ping et al., 2019).

The interest in exploring conversational agents is increasing. Chatbots improve service quality and market competitiveness and increase user engagement by offering customized flexibility and improving experiences. Bavaresco et al. (2020)'s research found many studies about the introduction of Chatbot- commerce, financial (banking and stock investment), telecommunication, food, management, medical, technical, tourism and negotiation. From it, deduce that the commerce domain is the most explored (approached by forty-three point three per cent), with the following sub-areas: E-commerce, Sales, Flight booking and Shopping. It was also possible from their research to identify the primary goal of conversational agents in business domains and later divide them into nine subjects: Advisor, Customer Engagement, Customer Support, Internal Support, Investigating, Investment, Ordering, Q&A- and most commonly, Recommendation and Task management. Based on research, the authors describe the challenges, dividing them into two intervals.

From 2009 to 2015, the main challenges are: answer flexibility in real-time, semantics interpretation, Deep parsing, generate artificial conversations that handle more than one context simultaneously, ability to development of statistical-based approaches while interacting. From 2015 to 2019, were user profiles, understand the context of interaction, personalized responses, and sentiment and emotional analysis. The use of Machine Learning methods can extract knowledge during the conversation with the

customer. It can improve the dialogue with the users or improve decision-making while providing an answer.

Chapter IV- Theoretical Approach

Following the Literature review, comprised of Chapters II and III in the present research, exposing different studies and perspectives on the introduction of Artificial Intelligence and its impacts on Marketing. The research conducted resulted in research questions- to be addressed in this chapter. Considering that the interest in Artificial Intelligence is increasing (Costa et al., 2019), and its recent popularity is at an all-time high (Grandinetti, 2020). With research pointing toward the increase in the number of companies that adopt it (Ameen et al., 2021), Xu et al. (2020) point out the pressing need to clarify Artificial Intelligence's place in business.

However, the visible disconnection between the theory (knowledge produced by business schools) and the practice (how businesses operate) makes this question harder to answer (Costa et al., 2019). Because research tends to focus on the benefits Artificial Intelligence could create for companies and describe it in such a positive light (Mogaji et al., 2020), we need to understand if it resulted from an excess of optimism towards its abilities (Grandinetti, 2020). Leading us to the first research question:

Q1-Why companies in Portugal use Artificial Intelligence? What are the obstacles, challenges and reasons to introduce this technology?

To fully understand the reasons behind AI introduction, we have to complement it with other questions, such as: 1- *Does the company you work for uses Artificial Intelligence?* 2- *What are the challenges/obstacles in AI introduction?* 3- *What are the main reasons to introduce this technology (benefits)?* 4- *Do you consider Artificial Intelligence as a competitive advantage?*

Not only is important to understand if companies follow the “trend”, and already use Artificial Intelligence (the objective of question 1), to understand what is stopping the ones that did not adopt this technology and the main challenges for the ones that introduce it (responding to question 2), to examine the reasons to introduce/ to want to introduce AI (answering to 3). And the last, question 4, is to assess if the perception of the interviewees influence their willingness to introduce Artificial Intelligence- Costa et al. (2019) argues that if companies consider this technology a competitive advantage are more likely to introduce it.

After understanding if companies are willing to introduce this technology, the reasons that make them want to introduce it, the challenges they faced/will face with the introduction, how they perceive it, and if their perception affects its adoption. It is equally important to understand if companies feel pressure to introduce this technology, if they feel that AI is essential for the company's survival. If answered affirmatively to understand who pressured the company- the customers that demand a personalised service? From competitors that already use it? Or the pressure comes from management?

Q2-Do you feel pressure to introduce this technology?

The question aims to understand the motive behind Artificial Intelligence and if pressure played a part in it.

Due to its popularity and variety in applications, the use of this technology became common (Peyravi et al., 2020). Xu et al. (2020) see the introduction of AI in the business context as unquestionable. The only unknown is how far will companies take it to maximize service efficiency.

The research looks for the answer in the business environment. Not only did Globalization increased competition (Peyravi et al., 2020), but managing customer needs have also become increasingly challenging. Customers became harder to satisfy (Ameen et al., 2021), and their needs became volatile as their awareness and knowledge grew. People grew impatient if the offer does not meet the expectation, they have no problem looking for alternatives and buying from competitors.

When it comes to answering the reasons for AI introduction, research lists the following: to achieve goals (Peyravi et al., 2020), to increase organizational performance (Costa et al., 2019), respond to margin pressures, manage customer expectations, and shorter strategy cycles (Ameen et al., 2021), the need to replace domain fixed predictions that lack precision and accuracy (Mogaji et al., 2020; Schrettenbrunnner, 2020), to leverage big data and get customer insights (Costa et al., 2019; Mogaji et al., 2020), and develop effective customer segmentation and profile strategies and help to build a long-term relationship with the customer (Mogaji et al., 2020).

The decision to introduce Artificial Intelligence must factor in company-specific aspects. The benefits vary from industry: industries that generate large volumes of customer data and frequently interact with customers are the ones that benefit more from AI introduction (Mogaji et al., 2020). Before introducing Artificial Intelligence, companies have to assess if it will clash with the companies' values and if it makes sense for their customers. The customer should be a priority.

This question also wants to assess if companies find it necessary to introduce this technology to survive. Schrettenbrunnner (2020) remind us that there is a risk in not apply AI, adding that this technology is necessary to survive in complex data environments. Costa et al. (2019) recognize that companies that choose to ignore technological advancements might not survive. Mogaji et al. (2020) argue that digital environments require the deployment of digital technologies like AI. According to Davenport et al. (2020), AI introduction is essential, because the authors consider current technologies capabilities inadequate, and the predictive analysis needs to improve.

Q3- How is Marketing Impacted with the Introduction of AI?

To fully examine the impact of AI introduction on Marketing, we have to complement it with other questions, such as: 1-*Do you/want to use AI on Marketing? Where?* 2- *What is/will be the impact of this technology?* Seems logical, while researching this theme, to discover first if the company uses/wants to use this technology in Marketing, the areas and tasks that adopted this technology, and only after question the about impacts of this decision. Research sees Marketing as the principal beneficiary of AI introduction (Davenport et al., 2020; Peyravi et al., 2020), and the belief that Artificial Intelligence produces radical changes in Marketing is widely spread (Grandinetti, 2020).

AI gather, aggregates, and analyses large amounts of individual data- customer behaviour online: searches, reviews, interactions, allowing a better understanding of the target audience and its purchase behaviours. It helps companies to make informed decisions and creates a customized experience for every customer. It can launch digital campaigns based on customer behaviour analysis and purchase history, intending to influence purchase choices (Mogaji et al., 2020).

Costa et al. (2019) assert that AI is an asset in decision-making. Huang and Rust (2021) argue that companies could introduce AI in every stage of the Marketing Research-Strategy-Action cycle. One recurrent theme I found while researching about the impacts Artificial Intelligence has in Marketing is Personalization. For this reason, it is necessary to understand how it affects the customer, leading us to the following research question:

Q4- How does Artificial Intelligence impact the customer-brand relationship?

I answer this research question by asking the following: 1- *Does the company uses Artificial Intelligence to engage directly with the customer? How?* 2- *How does personalization affect the customer retention?* 3- *How does Artificial Intelligence affect customer loyalty?* The first question is self-explanatory, aims to understand if any of the interviewees use AI to engage with customers. The literature review conducted mentioned frequently the importance of personalization (and how customers demand it) so I found essential to ask the interviewees their opinion on the matter. And the last question relates with previous, and since AI increases the levels of personalization achieved, how would it affect customer satisfaction, and, consequently customer loyalty.

Technology advancements change the way humans interact and connect (Safarti, 2016). It changed people's behaviour (Peyravi et al., 2020) and made them obsessed with the Present, the here and now (Lobo, 2017). The research concludes that AI introduction will change the way customers interact with the brands (Hollebeek et al., 2021; Insight, 2020). Personalization plays a significant part in the customer-brand relationship and customer retention (Ameen et al., 2021). The success of the use of Artificial Intelligence in service depends on the type of service (if it is transactional or relational) and customer-related aspects, for example, if they are aware of the use of this technology and what they think about Artificial Intelligence (Hollebeek et al., 2021; Huang & Rust, 2021).

Chapter V – Methodology

5.1 Research Model

Research methodology is a discipline derived from logic, and its objective is to study the scientific method (Tarski, 1977). With this in mind, it is possible to deduce that the scientific method is a set of practices used and ratified by the scientific community as valid for the exposition and confirmation of a given theory. Considering the research classification criteria proposed by Vergara (2006) and Vilelas (2009), we can classify methodology either by its ends or by its means. The first relates to applied and exploratory research, while the second relates to the bibliographic research and the study field.

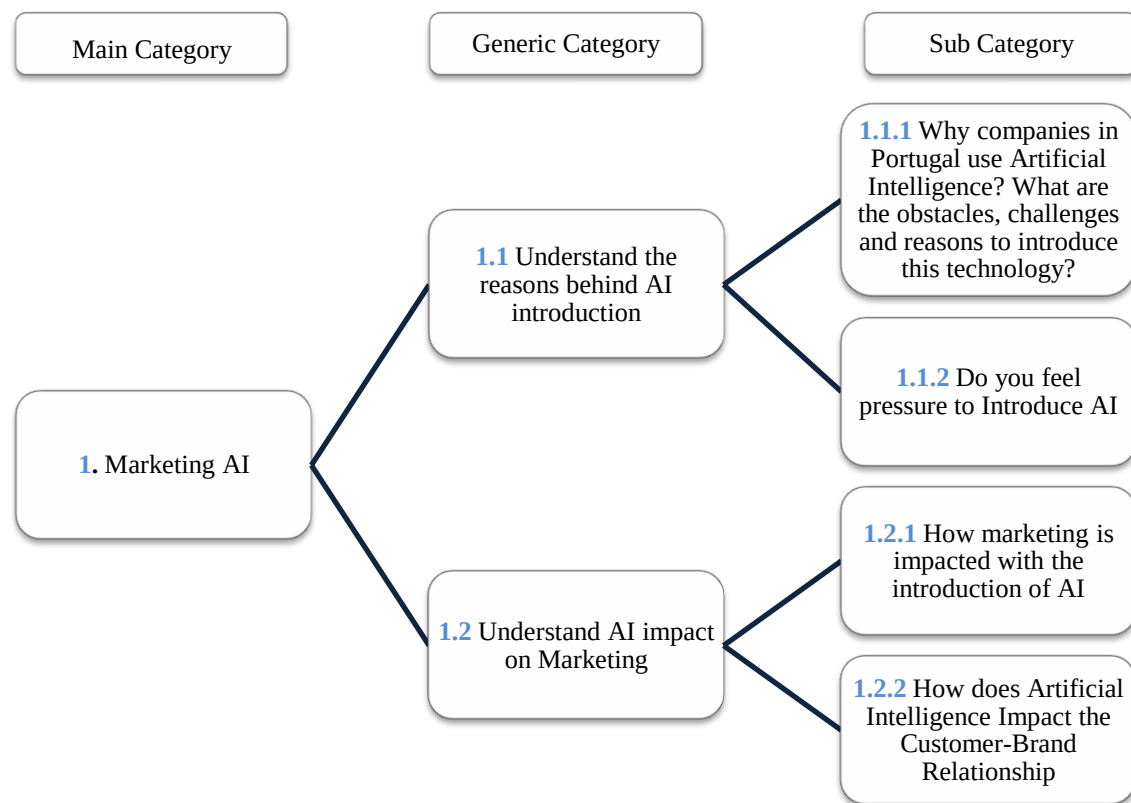
This research has a pragmatic or inductive character¹, conducted from a non-probabilistic convenience sample², constituted according to the accessibility and availability of the elements approached (Carmo & Ferreira, 1998). In this case, to answer the research question that motivates the research, twenty-one interviews with different collaborators from Companies in Portugal were conducted (Appendix 1). However, it is critical to mention that the selection was intentional since the chosen participants better represented the phenomenon investigated. Even though the response rate is satisfactory, conclusions derived from the research should be read considering the limitations associated with small samples. The inability to generalize the results is the main limitation of this research. However, it is essential to mention that generalization was not the main objective.

¹ It does not want to reach true conclusions from equally truthful premises (deductive method), but only, through induction, measure the set of the social phenomenon under study to arrive at a set of probabilities that allow to make comparisons and discover their relationship.

² The sample is not representative of the population, occurs when the participation is voluntary, or choose sample elements for convenience. In this case, the sampling process consisted of a set of individuals asked to answer a set of questions in an interview. In other words, the sample consisted of elements that collaborated, and, for this reason, we have to read the result of this research carefully to be able to generalize to the general population.

The methodology used resulted from the analysis of a set of interviews, that sought out to measure the phenomenon at the social, individual, and human holistic³ dynamic. Making it possible to analyze the information in inductive way, this is only possible by observing, collecting and analyzing the facts. The technique used on qualitative analysis to interpret the data collected from the interviews was content analysis, trying to relate the statement's semantic structures (signifiers) with sociological structures (meanings) to articulate the text with factors that determine its characteristics, psychosocial variables, cultural context and the message's context, process and reproduction (Duriau et al., 2007). In the following figure details the categorization and codification of the interview corpus for qualitative analysis.

Figure 1- Categorization and codification of the interview corpus for qualitative analysis

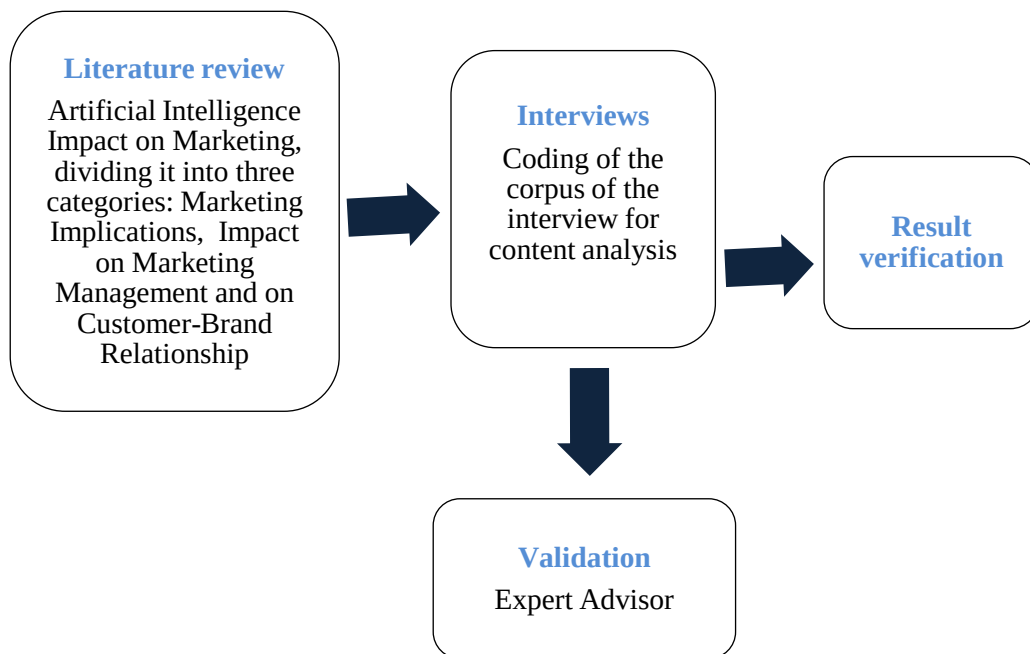


Source: Author's Elaboration

³ Assuming that the full understanding of the human being is indivisible and in constant interaction so it cannot be analyzed through isolated activities.

The research had four phases, 1- Literature Review and information processing, 2-the transference of the theoretical construct to the field of observation, this stage is essential to achieve the higher level of confidence possible in terms of results, 3-data collection and 4- data analysis of the information collected during the interviews. The figure bellow shows the design of the Research Model.

Figure 2 - Research model



Source: Author's Elaboration

The following Table (10) illustrates the relationship between the research objective, the research questions, and their connection with the literature research. And the table that follows, illustrates what is stated in the theoretical approach- some research questions are complemented with additional/introductory questions, to achieve a better understanding of the subject.

Table 9- Relationship between the research objective, the research questions, and their connection with the literature research

Research Objectives	Research Questions	Research Technique	Literature Review
OBJ.1 Understand if companies in Portugal currently use AI	Why companies in Portugal use Artificial Intelligence? What are the obstacles, challenges and reasons to introduce this technology?	Content analysis from MaxQDA system (for qualitative analysis of interviews)	(Ameen et al., 2021), (Costa et al., 2019), (Grandinetti, 2020), (Mogaji et al., 2020), (Xu et al., 2020)
	Is there Pressure to Introduce this technology?		(Ameen et al., 2021), (Mogaji et al., 2020), (Peyravi et al., 2020), (Xu et al., 2020), (Schrettenbrunner, 2020)
OBJ.2 Understand the Impact of AI on Marketing	How is Marketing Impacted by the Introduction of AI?		(Costa et al., 2019), (Davenport et al., 2020), (Grandinetti, 2020), (Huang & Rust, 2021), (Mogaji et al., 2020), (Peyravi et al., 2020)
	How is the Customer-Brand Relationship Impacted with the Introduction of AI?		(Ameen et al., 2021), (Peyravi et al., 2020), (Hollebeek et al., 2021), (Huang & Rust, 2021), (Insight, 2020)

Source: Author's elaboration

Table 10- Relationship between the research questions and the interview questions

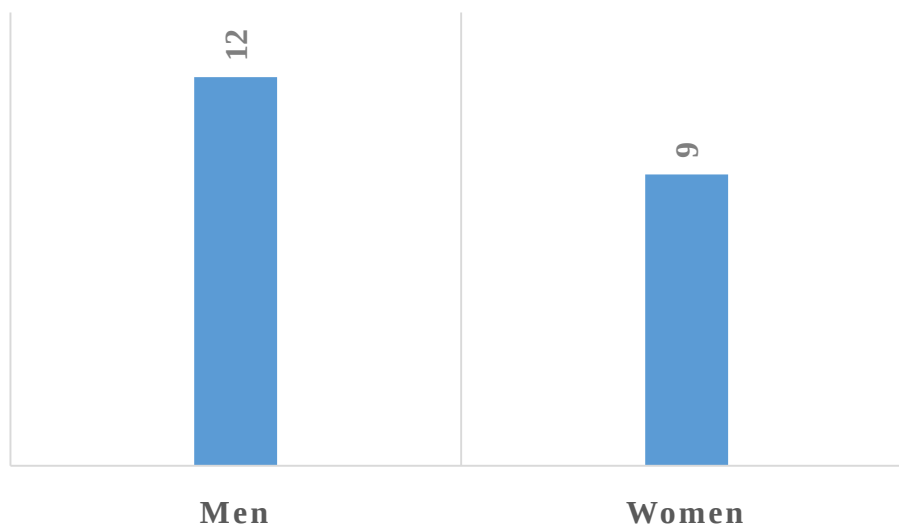
Research Questions	Interview Questions
Why companies in Portugal use Artificial Intelligence? What are the obstacles, challenges and reasons to introduce this technology?	Does the company you work for uses Artificial Intelligence
	What are the challenges/obstacles in AI introduction?
	What are the main reasons to introduce this technology?
	Do you consider Artificial Intelligence as a competitive advantage?
Is there Pressure to Introduce this technology?	Do you feel pressure to introduce this technology?
How is Marketing Impacted by the Introduction of AI?	Do you/want to use AI on Marketing? Where?
	What is/will be the impact of this technology?
How is the Customer-Brand Relationship Impacted with the Introduction of AI?	Does the company uses Artificial Intelligence to engage directly with the customer? How?
	How does personalization affect the customer retention?
	How does Artificial Intelligence affect customer loyalty?

Source: Author's elaboration

5.2 Sample Characteristics

Firstly, I conducted an analysis of all the statistical variables that could objectively characterize the sample: their gender, their job title, the industry sector (they work on), and the type of company, with the objective to comprehend the exiting sample regarding their nature, and their experience and professional knowledge. Of the twenty-one interviewees, twelve were male (57,1%), and nine were female (42,9%), as Figure 3 demonstrates.

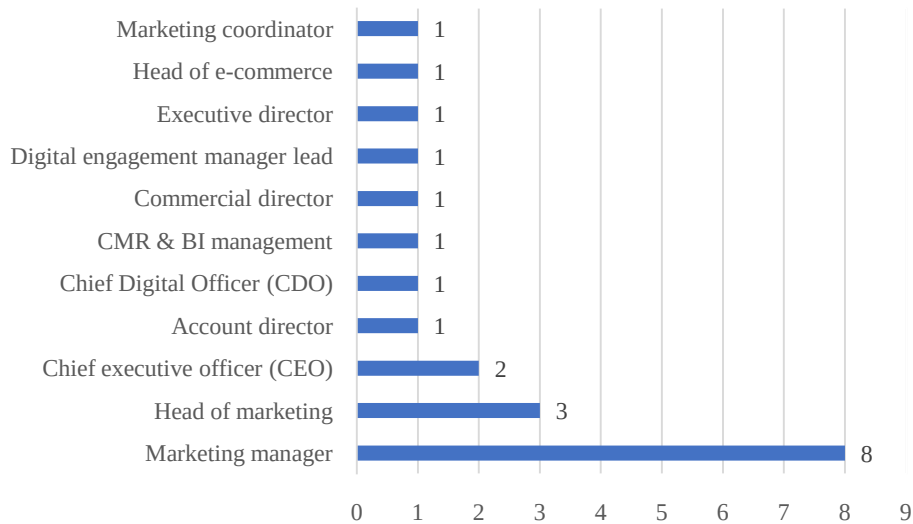
Figure 3 - Gender distribution of the interviewees



Source: Author's elaboration

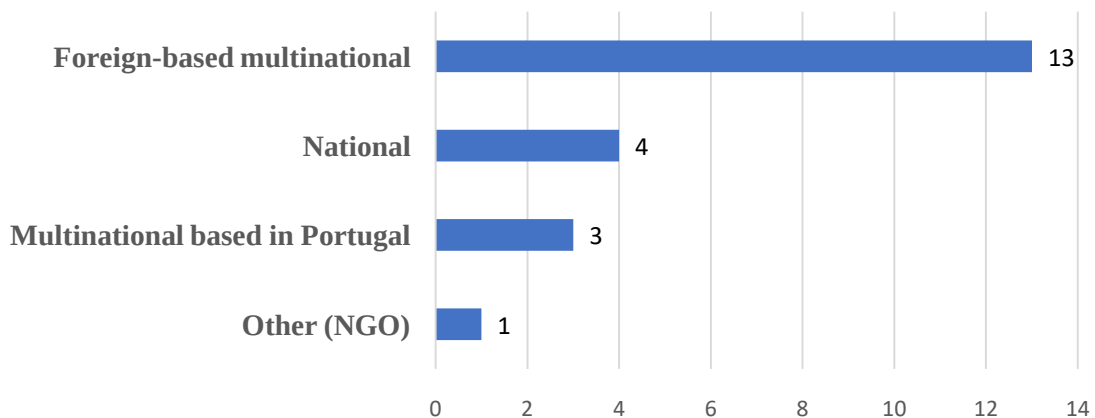
Eight of the interviewed were Marketing Managers (38%), three of them Head of Marketing (14%), two of them Chief Executive Officer (CEO) (10%), one Account director (4,75%), one Chief Digital Officer (CDO) (4,75%), one CRM & BI manager (4,75%), one Commercial Director (4,75%), one Digital Engagement Manager (4,75%), one Executive Director (4,75%), one Head of e-commerce (4,75%), and one Marketing coordinator (4,75%). As for the type of companies- one is an NGO (4,77%), three were Multinational based in Portugal (14,29%), four were National (19,04%), and thirteen were Foreign-based multinational (61,90%).

Figure 4 - Distribution of the Interviewees by Job Title



Source: Author's elaboration

Figure 5 - Distribution of the Interviewees by the Type of Company



Source: Author's elaboration

When analysing the distribution of the interviewees by the type of company they work on, as demonstrated in the table and figure bellow, we can observe that four of interviewed work on Real Estate (20%), four in Fast Moving Consumer Goods (20%),

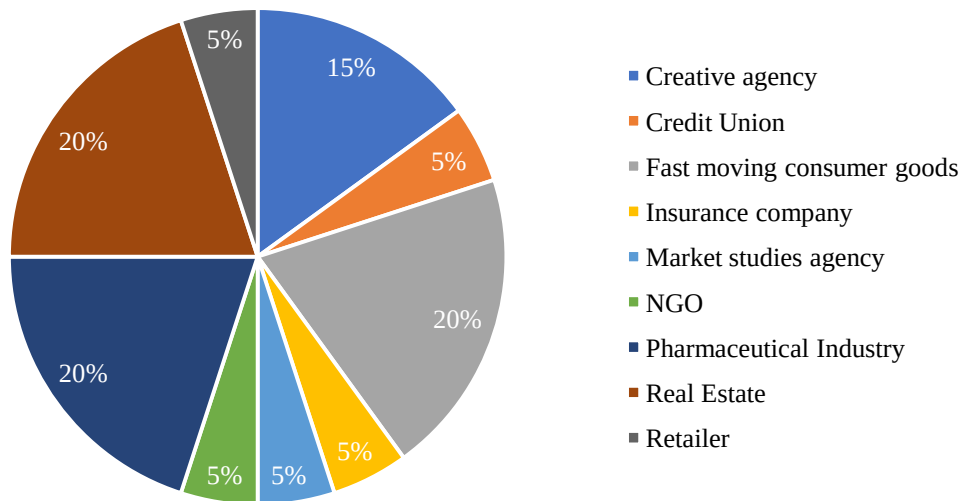
four in the Pharmaceutical Industry (20%), three in Creative agencies (15%), one Retailer (5%), one Credit Union (5%), one Insurance Company (5%), one Market Studies agency (5%), one NGO (5%).

Table 11 - Distribution of the Interviewees by the Activity Sector

Activity sector	Number of times	Interviewees
Fast moving consumer goods	5	3,11,15,18,21
Real Estate	4	9,12,19,20
Pharmaceutical Industry	4	1,2,5,7
Creative agency	3	4,10,13
Retailer	1	6
Insurance company	1	8
Market studies agency	1	14
NGO	1	16
Credit Union	1	17

Source: Author's elaboration

Figure 6 - Distribution of the Interviewees by Activity Sector



Source: Author's elaboration

Chapter V I– Result Presentation and Discussion

6.1 Understand if companies in Portugal use this technology and the Reasons behind its introduction

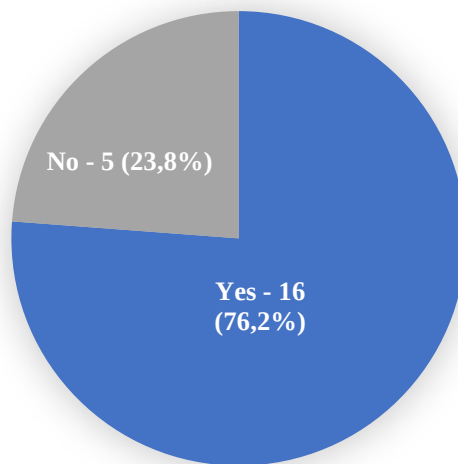
The first research question of this research aims to understand why companies in Portugal introduced Artificial Intelligence. To do so, the first thing to examine is if the companies use this technology. The majority of the interviewees (76,2%) assert that the company (they work for) introduced Artificial intelligence, while 23,8% have not, as demonstrated in the table and figure below.

Table 12 - Use of Artificial Intelligence

Text	Generic Category	Sub-category	Number of times	Interviewees
Yes	1.1	1.1.1	16	3,5,6,7,8,9,10,11,12,14,16,17,18,19,20,21
No	1.1	1.1.1	5	1,2,4,13,15

Source: Author's Elaboration

Figure 7 - Distribution of companies by the use of AI



Source: Author's Elaboration

When answering this question, Interviewee 3 described the use of this technology as recent; 7, 11, and 14 declare that the use of this technology is not continuous, nor its adoption transversal, adding that it depends on the projects - following Paiva & Prevedello (2017) suggestion to implement this technology gradually. Interviewees 2

and 11 felt the need to distinguish the company in Portugal and other markets, acknowledging that some markets might be ahead in the introduction in comparison. Similarly, 15 did not know the state of its adoption in other markets.

Overgoor et al. (2019) explained the different ways companies could implement AI: to write the code from scratch using R or Python, to use prebuilt packages or libraries in programming languages (R, Python, MATLAB, OR SAS) and use it to write the code (it is similar to the first one, only much easier with the help of scripts) and the last one Plug and Pay software that provides user-friendly tools to install it. They vary in the degree of flexibility: the first, even though harder to develop, provide the company with higher levels of flexibility to tailor the model; the last provides the least. Also, vary in the time it takes to develop it: the first takes more time, considering that you have to write the code by yourself, while by using the last, companies can introduce it almost immediately.

Overgoor et al. (2019) did not consider that companies could use AI through platforms with built-in tools powered by this technology. However, this was the case described by 3 and 10. For this reason, Interviewee 10 describes the use of technology as "tamed". Interviewee 3 states that the company uses (the platform) Microsoft Power BI. Interviewee 10 believes that most marketers use AI without even being aware, explaining that it only takes the use of a social media network to be in contact with AI. According to them, everything that happens on Facebook and Google's platforms is AI-driven.

Depending on the answer to "Does the company you work for uses Artificial Intelligence?", the next question was phrased differently, meaning to the interviewees that work for companies that did not adopt AI listed the hindrances for the introduction of this technology, while the interviewees that responded affirmatively described the major challenges in the process of AI adoption. Because of the similarities in content, and to avoid repetition, I presented its analysis against the literature review together after both tables.

Table 13 - Main Obstacles to Artificial Intelligence Introduction (reasons that explain why companies have not yet introduce it)

Text	Generic Category	Sub-category	Number of times	Interviewees
The company highly values the relationship with the customers	1.1	1.1.1	5	1,2,4,13,15
Did not feel the need to introduce it yet	1.1	1.1.1	3	4,13,15
Data collection issues	1.1	1.1.1	3	1,2,4
The investment cost	1.1	1.1.1	3	1,2,15
Company's structure makes the approval of this technology an hard and long process- company's structure is not ready for AI	1.1	1.1.1	3	1,2,15
Industry Related issues- highly regulated legal framework, must follow a highly limiting code of conduct. Marketing has a slower evolution in this industry, especially when it comes to communication techniques. This environment limits innovation.	1.1	1.1.1	3	1,2,4

Source: Author's Elaboration

All of them mention (1,2,4,13,15) the relationship with the customer as a factor that companies highly value and how it is an essential part of the experience. The company is afraid that AI introduction would damage it. Considering the reason stated above, Interviewees 4, 13 and 15 mentioned that they did not feel the need to introduce this technology yet. 15 also added that the tools used (Salesforce and CforC, when dealing with B2B) are "powerful" enough to perform the tasks necessary and that CRM is still manual (does not use platforms, such as Microsoft dynamics). This interviewee added that despite the fact that the introduction of this technology is not in the company's short or medium-term projects, companies are walking towards it, and considers that, in the long-term, the introduction of this technology will be essential.

The interviewees 1, 2 and 15 also named the cost of the investment as a difficulty. They also described that the company's structure makes this technology's introduction more challenging, because it would require many approvals (which takes time) and its structure is not ready for AI.

Before explaining the remaining two challenges is necessary to point out that 1 and 2 are pharmaceutical companies, and 4 is a creative agency (and the majority of their customers are pharmaceuticals). All emphasized that the pharmaceutical industry is

highly regulated and must follow a highly limiting code of conduct. 1 and 2 add that other difficulty arises from how companies sell their products- they sell medicine, and for customers to purchase them, they require a medical prescription. However, due to legal constraints, the interviewees cannot know what each doctor prescribes (data collection issues). They do have access to information organized in geographic clusters. Interviewee 4 states that this environment constricts innovation.

Table 14. Main Challenges Faced in AI Introduction

Text	Generic Category	Sub-category	Number of times	Interviewees
The cost of the investment	1.1	1.1.1	10	3,5,7,8,9,11,12,16,18,20
Loss of “human” connection with the customers	1.1	1.1.1	4	3,8,10,19
Lack of understanding surrounding this technology	1.1	1.1.1	4	5,9,19,21
Job Transformation	1.1	1.1.1	3	3,10,16
Data related issues- collection, privacy, security, amount and frequency	1.1	1.1.1	3	5,10,16
Technical difficulties- lack of personnel able to develop this type of mechanism	1.1	1.1.1	3	6,16,17
Senior management and other administrative bodies visions might not align with the adoption of this technology- managers might not understand the benefits	1.1	1.1.1	3	5,7,9
The company’s structure makes it less flexible- companies must change to introduce this technology	1.1	1.1.1	3	11,17,20
High expectations for this technology	1.1	1.1.1	2	9,11
Technology limitations- Artificial Intelligence has difficulties in understanding human emotion (humour, sarcasm, etc.)	1.1	1.1.1	2	3,14
Lack of variety in offers of AI tools (suppliers)	1.1	1.1.1	1	5

Source: Author’s Elaboration

Now let's look at the responses of the interviewees that work with this technology. The majority of them (ten out of sixteen) mention the cost of investment, and Interviewee 3 believes that this is the main reason that demotivates small companies (like Kiruthika &

Khaddaj (2017) said). The cost of the investment is not only comprised of AI- involves hardware, software and storage solutions, to make AI efficient (Kiruthika & Khaddaj, 2017). 2, 5, 11 and 18 add that companies have difficulties prioritizing the investment since the returns might not be immediate.

With a similar opinion 9 and 11 state that companies have high expectations regarding this technology and perceive it as miraculous with instant results [Davenport et al. (2020) states that people should manage their expectations, while Insight (2020) and Overgoor et al. (2019) defend that the effect of the introduction might not be immediately visible].

Like the previous set of interviewees, 3, 8, 10 and 12 mentions the loss of human connection. They fear that it would negatively affect customer experience- like Ameen et al. (2021) theorizes- 10 highlighted our need to maintain social relationships and 3 believes that when companies deploy AI to interact directly with customers. 3 and 14 mention that AI has limitations when recognising human emotion [Grandinetti et al. (2020) argues that companies use HI to engage with customers since AI lacks the ability to relate to them. Eriksson et al. (2020) add that HI still has the “upper hand” when the activity involves creativity, imagination or intuition. And Costa et al. (2019) points out AI limitations in comprehending human emotion and makes it less likely to replace humans in tasks that involve social interactions].

This leads us to the following challenge mentioned by interviewees 3, 10 and 16, the Job transformation. Interviewee 3 said that AI introduction alters employees' routines, meaning that when AI automates the task they performed, they have to evolve [Huang & Rust (2021) highlights the following social Implications: when AI replaces “unskilled employees” where will they go?]; According to the interviewee 10, “the human employees are at the system's mercy” and in an organization there are two types of process: non-cognitive and cognitive, and this last category subdivides themselves in routine and non-routine. 10 states that AI is now entering the ladder, the rest can be “easily” automated. They believe that AI will replace Human Intelligence, not yet but eventually and 16 sees this phenomenon as a trade-off- to introduce it companies release human resources

According to Eriksson et al. (2020), sooner or later a company must question if there is anything AI cannot do and Huang & Rust (2021) add that if machines evolve to truly understand emotions, it will become dominant in all aspects. Costa et al. (2019) about this theme, states that even though AI produces important strategic information, alone is not enough to improve performance - Managers must distinguish between valuable information and ignore the one that is irrelevant. Peyravi et al. (2020) states that just because AI can replace HI employees in tasks performed, does not mean it will.

About data collection issues: 5, employee of a pharmaceutical company, talked about the difficulty to store data in platforms; 10 highlights this system's dependence in large amounts of data and the frequency needed to make AI introduction efficient, stating that some brands or even industry sectors struggle with it [when comparing this statement to the literature review, Insight (2020) and Mogaji et al. (2020) argue that AI is not suited in companies that do not have enough data amounts or that do not engage with the customers with enough frequency to differentiate the service], 16 mention data security, management and ethics [Insight (2020) states that data is an asset and should be treated as so. To make the information provided to users insightful and meaningful, companies to carefully manage data (Insight, 2020; Mogaji et al., 2020). Customers must be aware that companies collect their data (Kiruthika & Khaddaj, 2017; Mogaji et al., 2020)].

Regarding the technology difficulties, 6 highlighted the lack of people able to develop AI mechanisms, 16 talked about the need to train people to have the necessary skill set and 17 said both reasons stated above [Kiruthika & Khaddaj (2017) point out the need to the need to hire specialists, to train employees to know how to work with this technology and to inform shareholders about the risks taken by implement it].

Interviewees 5, 7, 9, 19, and 21 argue that the main challenge is related with the lack of understanding, especially when it comes from management [According to Quan & Sanderson (2018), Managers have to understand the components of the ecosystem, and Overgoor et al. (2019) for AI introduction to be successful managers must understand this technology]. After examining the challenges/obstacles to the adoption of this technology all of the interviewees were asked to describe the main reasons to introduce AI (main benefits).

Table 15 - Main reasons to introduce Artificial Intelligence

Text	Generic Category	Sub-category	Number of times	Interviewees
Ability to personalize the communication with the customer based on their preferences	1.1	1.1.1	13	1,2,4,5,7,9,10,11,14,16,18,19,21
Provide important strategic information	1.1	1.1.1	11	1,3,4,5,8,10,14,15,16,20,21
Increase efficiency	1.1	1.1.1	9	2,3,9,11,13,14,16,17,21
Improve data collection and analysis	1.1	1.1.1	7	2,3,6,7,12,14,15
Makes the decision process faster	1.1	1.1.1	5	3,4,11,13,14
Increase flexibility and adaptability	1.1	1.1.1	3	11,14,21
Increases productivity	1.1	1.1.1	3	3,16,21
Cost economy	1.1	1.1.1	3	3,13,20
Ability to connect the departments within the company	1.1	1.1.1	2	1,3
Increase revenue	1.1	1.1.1	1	17
Allow companies to develop agility	1.1	1.1.1	1	20

Source: Author's Elaboration

Artificial Intelligence's ability to personalize the communication with the customer was the reason to introduce this technology said with more frequency (61,9%). With most of the interviewees stating that the system allows companies to understand the customer (1,5,7,11), the information collected by the system helps the company to personalize marketing activities- especially the communication (1,10,11) and by tailoring the offer companies improve the service quality, customer experience and customer service, and increase customer engagement (2,16,18,21). 9 believes that the ability to personalize the campaigns at an individual level would not be possible without the use of this technology. In 11's opinion, this ability makes the customer close to the company.

The answers are in conformity with the literature review: According to Insight (2020), customers desire a more personalized service and if companies are not able to provide it, they will look for alternatives in competitors. Mogaji et al. (2020) argues that Artificial Intelligence helps the company to understand their customers and how to effectively target them with personalized content. Similarly, Capatina et al. (2020) and

Mogaji et al. (2020) both highlight this technology's ability to personalize communication. According to Ameen et al. (2021), the levels of personalization AI achieves can increase the interest in shopping and increase the customer satisfaction.

Following the Ability to personalize the communication with the customer, AI's ability to provide important strategic information was the second most frequent answer, highlighted by 52,4% of the interviewees (1,3,4,5,8,10,14,15,16,20,21). Interviewee 1 classifies the type of information as "better and more accurate", 3 and 10 highlight how important this information is to the strategy, 8 and 16 states that it helps to create new business models and 5 considers it to be a great tool to create new commercial approaches.

Interviewee 21 believes that the information allows the company adapt to the customer needs and helps to predict changes in demand- helping companies to prepare. 1, 3, 4, 11, 13, 14 and 16 also describe it as a "fast" way to make decisions. Interviewee 3 states that AI automatically collects, processes and analyzes the data and allows managers to have access to real-time information about performance indicators, which allows the company to compare it with last year performance and see if companies can achieve the goals set, and adapt the strategy if necessary and 1 argues that AI introduction allows the company to measure the results faster.

When comparing it to the literature review the conclusions are similar: Costa et al. (2019) highlights the fact that AI is present in many companies through data mining and is an important part of the decision making, while Peyravi et al. (2020) believes that companies introduce AI to increase efficiency in strategies and create breakthroughs (supporting interviewee 3 and 10's argument), both add that this technology is able to provide information that is not always recognized by Human Intelligence employees. Davenport et al. (2020) states that AI introduction influences strategies, business models, sales processes, and customer service (like 8, 5 and 16 mentioned). Capatina et al. (2020) states that AI allows the company to monitor and alter the strategy to result in competitive advantages (like 1 and 3). According to Eriksson et al. (2020), AI introduction enables value creation for customers and the creation of other competitive advantages.

Interviewees 3, 4, 11, 13, and 14 say that AI introduction makes the decision-making process faster (Mogaji et al. (2020) agrees). The increase in efficiency was mentioned by nine of the interviewees (2, 3, 9, 11, 13, 14, 16, 17, and 21) and 3 of them (3, 16, and 21) mention the increase in productivity.

Interviewee 2 connects Artificial Intelligence's efficiency with its learning ability, 3, 11, 13, and 16 argue that the increase in efficiency comes from its introduction in the decision-making process and 9 states that the introduction of Artificial Intelligence allows the company to fulfil the value proposition and allows the company to have a coherent message despite the geographic context. 14, 17 and 21 did not elaborate. 11 added that the use of this technology allows the reduction or even to remove the subjective aspect of decision-making and base the decision on data. 13 believes that companies should deploy technologies that allow to improve decision-making and make it automatic.

In comparison to the literature review, 3, 11, 13 and 16's argument that the increase of efficiency is due to its introduction in strategy is explained above. Grandinetti (2020) highlights AI's ability to learn and improve efficiency (like 2 said). And Peyravi et al. (2020) believes that the introduction of this technology leads to the increase of productivity (mentioned by 3, 16, and 21).

Data collection and analysis improvement was brought up by seven of the interviewees (2, 3, 6, 7, 12, 14, and 15). Interviewees 2, 7, 12, 14 and 15 state that AI introduction improves data analysis and provides quality information, 3 uses the system to collect, aggregate and process data, and with the result of these activities, creates automatic reports. 6 argues that because the company manages large amounts of data, the company business model favours the use of technologies that make data management easier and more efficient.

Peyravi et al (2020) expresses how data collection is extremely important. Huang and Rust (2021) and Mogaji et al. (2021) state AI facilitates data collection, through the use of chatbots, e-mail, social media, websites, location-based advertisements and if customers use connected devices. They add that after data collection Artificial Intelligence helps companies to leverage the information and create value.

Three of the interviewees (3, 13 and 20) declare Cost economy as a reason to introduce. 3 is the only that elaborates further, saying that cost reduction happens because of the automation of routine tasks that reduces human error and frees HI employees to perform other tasks. Overgoor et al. (2019) says that machines are faster, cheaper, and more efficient than humans. Grandinetti (2020) believes that cost reduction is the main factor for AI introduction and diffusion. Costa et al. (2019) and Kiruthika & Khaddaj (2017) believe that AI introduction results in costs savings due to the knowledge the system produces. But only one person mentioned (17) the increase of revenues.

The increase of flexibility and adaptability (highlighted by 11, 14 and 21) and the agility development (pointed out by 20) are both the result of the system ability to learn. According to Schrettenbrunnner (2020), companies must introduce self-learning systems to increase its agility and increase innovation.

In 1 and 3's opinion the reports Artificial Intelligence produce, have the ability to connect the departments within the companies. Kiruthika & Khaddaj (2017), similarly affirm that this technology has the ability to interlink the departments giving access to reports with various data dimension, could provide competitive advantages.

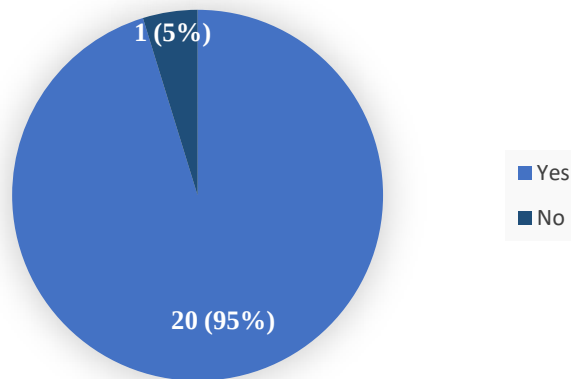
Considering the reasons provided to adopt this technology, it is necessary to understand how the interviewees perceive Artificial Intelligence, to, as stated in the theoretical approach, comprehend if their opinion influences their willingness to use it. So I asked the interviewees if they consider this technology to be a competitive advantage. We can observe their responses in the table and figure bellow.

Table 16 - Assessing if the interviewees consider AI to be a competitive advantage

Text	Generic Category	Sub-category	Number of times	Interviewees
Yes	1.1	1.1.1	20	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18 19,20
No	1.1	1.1.1	1	21

Source: Author's Elaboration

Figure 8 - Interviewees distribution considering their opinion if AI is a competitive advantage



Source: Author's Elaboration

As illustrated in the table and figure, only one of them (21) does not consider Artificial Intelligence as a source of competitive advantage. Even though the interviewee considers the ability to accurately predict “the future” and constantly learn from performing tasks as a “superpower” companies should develop and have in the near future, and considering the fact that those aspects characterize AI, they do not consider this technology as a competitive advantage. For them, Artificial Intelligence is nothing but a tool, adding that they doubt that it can be more than that.

The majority (1, 3, 5, 6, 7, 9, 11, 12, 14, 18, 19 and 20) justify it based on strategy benefits. 5, 6, 11, 14, 17 and 18 highlight the efficiency improve, 11 mentions the quality and quantity AI systems produce, and 13, the human error reduction. 4, 15 and 20 distinguish between companies that use AI from the ones that don't- 4 and 5 say that AI introduction is a way to differentiate themselves from the competitors (5 adds justifies it, mentioning the levels of personalization it can achieve), while 20 affirms that a company with Artificial Intelligence has a consistent data history (according to them the biggest advantage a company can have). 19 adds the increasingly necessity companies have to go digital, especially today considering the pandemic. 16 believes that AI is a competitive advantage in many different ways, depending on how and why companies use it.

Interviewees 10 and 13, despite considering Artificial Intelligence as a competitive advantage, also defend that it depends on the industry (10), if they do not have enough data and frequency, and on the areas introduces (13). However, 17 disagrees and states that AI introduction is a competitive advantage in any businesses.

According to Peyravi et al. (2020), one of the reasons to introduce Artificial Intelligence is to remain competitive-it can use real-time data to adjust strategy and increase the accuracy of future predictions. The authors also add that AI is an essential tool to sustain competitive advantage and to operate in the market, where companies are required to provide personalized customer service. Capatina et al. (2020) highlights Artificial Intelligence's ability to provide real-time competitive advantage analytics, it can monitor if the Marketing Mix is appropriate for the cluster of customers according to the customer buying stage.

Kiruthika & Khaddaj (2017) considers AI a competitive advantage due to its ability to interlinking the departments and providing reports with various types of data. Bruyn et al. (2020) also considers this technology to be a competitive advantage because allows the company to have access to large amounts of data. Eriksson et al. (2020) states Artificial Intelligence enables value creation for the customer and competitive advantages. According to Costa et al. (2019)'s research findings, Artificial Intelligence is a competitive advantage and differentiates the companies that use it from the ones that do not. According to Mogaji et al. (2020), companies are changing their view about this technology that no longer is just a mean to reduce costs but a tool to increase competitiveness.

6.2 Understand if companies feel pressure to introduce this technology

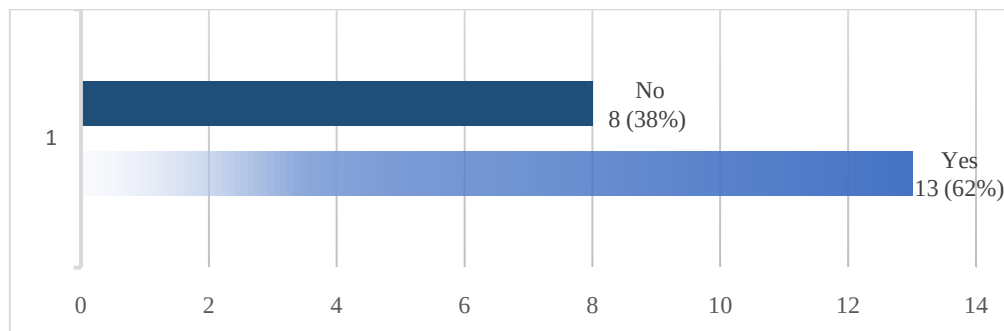
After understanding if companies introduced this technology, the reasons that supported that decision, the challenges to its introduction and how the interviewees perceived Artificial Intelligence, is important to understand if companies see the adoption of this technology as necessary, is they felt pressured to introduce it. Unlike what happened in Costa et al. (2019)'s research not all interviewees say that the use of AI tools is a clear advantage, and 1, 2, 4, 13, 15 do not consider the introduction of this technology as a priority.

Table 17 - Assessing if companies feel pressure to introduce this technology

Text	Generic Category	Sub-category	Number of times	Interviewees
Yes	1.1	1.1.2	13	2,3,5,7,8,9,11,14,17,18, 19,20,21
No	1.1	1.1.2	8	1,4,6,10,12,13,15,16

Source: Author's Elaboration

Figure 9 - Interviewees distribution considering their opinion about the pressure to introduce Artificial Intelligence



Source: Author's Elaboration

Even though the Literature review discusses the reasons to introduce this technology and its effects on business, it does not address directly if companies feel/felt pressure to introduce this technology. This research question resulted from an inference based on the description of AI abilities. Artificial Intelligence provides competitive advantages (Mogaji et al., 2020), helps companies to achieve their goals (Peyravi et al., 2020), increases organizational performance (Costa et al., 2019), helps managing customer expectations, respond to shorter strategy cycles (Ameen et al., 2021), and increases precision and accuracy (Mogaji et al., 2021). According to Schrettenbrunnner (2020), AI introduction is necessary to survive the complex data space, adding that its models provide long-distance vision and resolution. Peyravi et al. (2020) believes AI introduction became essential for Marketing activities.

Considering that, do companies feel the urgency to introduce this technology? As we can see in the table and figure above, the majority of the interviewees (62%) felt pressure to introduce Artificial Intelligence while 38% of them do not feel it.

Interviewee 1 argues that despite being a “great” source of competitive advantage, its introduction in this sector is challenging- so they do not feel pressured to introduce this technology, 4 and 13 say that in this company’s sector there is no pressure to introduce it. 12 would not describe it as pressure but acknowledges a sense of urgency to deliver a better customer experience, and AI might be a way to achieve it.

When asked, interviewee 6 responded “Not at all”. Artificial Intelligence is only a tool to help management, and, for this reason, each manager must choose whatever they find convenient. The interviewee also stated that each sector is different and there are sectors where AI introduction makes more sense than others, and some sectors feel more pressure than others, however that was not the case with their company. Despite not having felt the pressure, interviewee 6 states that a “good” competitor must use this technology and for them is evident that all the “Top organizations” deploy Artificial intelligence, because data analysis today require the use of Artificial Intelligence to help “read, comprehension and translate” the data.

10 considers that in the majority of the Portuguese business system (99%) there is no pressure, only this system’s elite (namely fintechs, start-ups and (relatively sophisticated) retail) feel it and in large amounts, adding that this “theme” is inevitable in relatively large-scale organizations. According to the interviewee, the pressure depends on the industry. Despite saying that in twenty years the companies that did not introduce this technology will not survive, they claim that there are companies that do not know what this technology is nor will they. When further asked about the previous comment, interviewee 10 added that “someone is not aware that they are dying until they do”, especially considering the rate markets change. They concluded that is necessary to be aware of this technology ability and that is a matter of time until Artificial Intelligence is able to do everything- they believe that the recent BCP lay-offs happened because the company is aware that people are not necessary.

Interviewee 15 also mentions the Portuguese market, adding that the Portuguese customers probability to not value personalization and does not have the need to change. For them, more developed markets feel the pressure. 16 believes the business size, the industry where the company operates, the volume of data and the objectives affect whether a company feels pressure or not. They also add that the majority of businesses do not need to introduce AI to improve their results. Like 16, 3 believes that

it depends on the industries. However, there is pressure to introduce this technology considering the market's fast evolution, the more tools a company has like Artificial Intelligence the more competitive it will be.

Interviewee 5 states that Artificial Intelligence is a part of a “new” set of tools companies should have, since they are necessary to develop commercial approaches. According to the interviewee, the pressure is at related with that and feels that AI becomes increasingly more necessary every day. 7 argues that this technology helps problem-solving and aids the relationship with the customer.

Interviewee 8 also felt pressure to introduce this technology. Not only the strategy the company uses (omnichannel strategy) demands for new products and provides lots of information that can help business to understand their customers, but also, they added that business should adapt to the (“very fast”) changes in the environment and the market, to be able to provide a good customer experience. 9 states that there is a lot of pressure, especially in companies that want to be leaders in their sector and in innovation because customers demand an excellent service, and they add that Artificial Intelligence allows companies to be “ahead of the competitors”.

Interviewee 11 accredits the pressure to the “reality of the market”, and it comes from the need to guarantee that the company remains competitive (“in the way it approaches the market and the creation of products and insights”). The need to “stay relevant, current and adaptable” is not only to be ahead of (old and new) competitors that deploy similar methods and technologies and the customers that are more knowledgeable (and aware of this technology) and expect a more efficient and more personalized service. They add that the pressure felt does not come from within the company (“does not come from management/leadership”) but from the environment (“to deal with the increasing customer expectations”). Because the competition tends to increase, “companies must arm themselves with these tools that allow them to have competitive advantage (either in customer service or for the way they look at the market)”. When considering that some companies might not feel pressure, interviewee 11 stated: “If companies do not feel pressure, they should. (...) This situation probably happens because senior management is not aware of the need”.

2 and 14 also mention the increase in competition, and that the pressure comes from the market and what competitors are able to offer. For Interviewee 14, Artificial Intelligence is becoming increasingly important due to impact that internet and social media networks have on marketing strategies. 17 states that although there is pressure to introduce Artificial Intelligence in the business context, they also state that some companies do not have the foundations necessary (“especially when it comes to data structure and architecture”) to introduce this technology.

18 states that “Nowadays, everything is about Artificial Intelligence”, there is pressure to introduce this technology in strategy, to automate processes and to improve services. 20 describes it as “Global Trend” and feels pressure because of “how practical it is”. Interviewee 19 believes that the “market and competitors force the digitalization and the use of Artificial Intelligence”, and AI becomes necessary “to survive competition”. 21 does not know if there is pressure to introduce this technology per se, but declare that there is pressure “from the market” to adopt more convenient and more personalized solutions. It becomes necessary because “there are others who do it”. They also stated that it also “comes from the will to be more efficient”.

6.3 Understand the impact of Artificial Intelligence Introduction on Marketing

After accessing the reasons behind AI introduction in companies located in Portugal, we reach the upcoming subcategory - Understanding Artificial Intelligence's Impact on Marketing. But before that we have to examine if the interviewees already deploy this technology on Marketing (or if they want to) – their answers can be found in the table below.

Table 18 - Access if companies use Artificial Intelligence on Marketing

Text	Generic Category	Sub-category	Number of times	Interviewees
Yes	1.2	1.2.1	15	3,5,6,7,8,9,10,11,12,16,17 18,19,20,21
Does not use, but wants to	1.2	1.2.1	4	1,2,14,15
Does not use nor wants to	1.2	1.2.1	2	4,13

Source: Author's Elaboration

From the group of interviewees that use Artificial Intelligence, one of them does not use it in Marketing (interviewee 14). I asked the interviewees that do not use this technology if they want to: to which only 2 out of 6, interviewees 4 and 13, do not pretend to use this technology. Both work in creativity agencies, both consider AI to be a competitive advantage, and both of them do not feel pressure to introduce it.

When inquired about reasons, interviewee 13 added that “I do not feel the need to introduce Artificial Intelligence in any task I perform”, both mention industry-related issues that their work revolves around intrinsically human characteristics (like creativity, innovation, and the relationship with the customers). The next question is, once again phrased differently- the ones that already introduced this technology on Marketing describe the activities and the areas where it happens, while the ones that want to introduce describe where. It is important to notice that the two interviewees that stated that they do not want to introduce this technology refused to answer this question.

Table 19 - Where companies use AI (on Marketing)

Text	Generic Category	Sub-category	Number of times	Interviewees
Marketing strategy	1.2	1.2.1	8	3,6,7,9,14,16,17,20
To communicate with the customer	1.2	1.2.1	7	3,5,6,9,10,11,16
CRM	1.2	1.2.1	4	8,12,18,19
R&D	1.2	1.2.1	3	7,8,10
Sales	1.2	1.2.1	1	21

Source: Author's Elaboration

Interviewee 3 uses it to communicate with customers through a chatbot and in decision-making, the interviewee added that the system collects, processes and analyzes the data and creates reports. Interviewee 5 deploys Artificial Intelligence when contacting the customers, they say that they work with a company (specialist in AI) that with the data can anticipate the best opportunity to contact the customer (how to contact them- e-mail, call; the frequency of contact and the theme) to improve customer experience.

Interviewee 6 highlights the two fundamental uses of this technology in their company: the first one, communication management- uses triggers (the content sent to the customer made by the system and sent automatically), the other relates with the

predictive analysis and decision-making tools. According to this interviewee, Marketing is the area most affected by AI introduction. 7 uses AI in R&D and in specific projects to understand the next-best action. Similarly, 11 also states that the use of AI is punctual, depends on the project. However, 11 uses it differently, in customer support, through a chatbot.

8 uses it to come up with new products (R&D) in CRM related issues- customer retention and marketing campaign. 12 and 19 also uses it on CRM. 9 deploys this technology in customer service (has a chatbot on Facebook and Instagram), in strategy (the system provides real-time information about the market, helps in lead generation, and by using metasearch can evaluate the customers). The company is currently working in a partnership to automate the marketing campaign- from targeting to delivery.

10 argues that the use of AI happens through a platform, uses it to automate the marketing communication and to develop new products (R&D). According to this Interviewee, “the use of this technology in marketing has its climax on platforms”, especially used to hiperpersonalize and automate the customer journey. 14 uses Artificial Intelligence to perform the data analysis (from the information retrieved from the brand's platforms), they are currently developing a chatbot.

16 deploys it to personalize the service using insightful data, the company also uses this technology to present or make suggestions to online users. According to 17, AI is used in the development and implementation of retention or propensity models and for data analysis. They are working to expand this usage namely for digital analytics and for chatbots. 18 use it on digital areas to provide customer service through Augmented Reality; use Artificial Intelligence created by Google, Facebook, TikTok, etc. used on social media campaigns, in automatic messages to customers (produced through Natural Language Processing).

20 use it on Business Intelligence Business Intelligence. And 21 argues that the company uses more frequently this technology in Sales (the personalization of the products and discount items, product recommendation). They add that the company is working on predictive algorithms for demand forecast- “to identify what customers

want to buy before they do” and are also experimenting with “back office” applications to optimize the processes.

The use of Artificial Intelligence to engage with customers makes the service more convenient, which, consequently, increases the levels of customer engagement (Ameen et al., 2021). By offering a personalized service it increases customer satisfaction (Huang & Rust, 2021a). Hollebeek et al. (2020) highlight the potential of automated interaction, and predicts that by 2025, ninety-five per cent of customer interactions will happen via computerized technologies and without human interaction. Its use on social media, studied by Capatina et al. (2020), show how AI tools optimize sentiment, audience and image analysis to identify the content that generate more customer engagement.

Peyravi et al. (2020) argues that the use of Artificial Intelligence, allows companies to understand customer behaviour and optimize the campaign. The authors argue that process automation takes marketing strategy to another level, improves forecasting, planning and execution activities and improving the results overall. Mogaji et al. (2020) states that AI's learning ability that makes it a capability, allows the company to produce important information about the market, customers, and competitors and with it determine the best channel, best content, the right time, and the frequency to engage with the customer.

Table 20 - Areas where interviewees want to introduce this technology (on Marketing)

Text	Generic Category	Sub-category	Number of times	Interviewees
CRM	1.2	1.2.1	3	1,2,7
Strategy	1.2	1.2.1	2	1,2

Source: Author's Elaboration

The answers of the interviewees that want to use Artificial Intelligence on Marketing are similar to the ones above: All of them, interviewees 1,2,7 want to use this technology to personalize of the marketing activities and effectively target them to increase the customer engagement and better the experience.

Peyravi et al. (2020) states that the current trends on AI introduction are related to CRM. Customer Relationship Management (CRM) is a key aspect of marketing that AI can optimize. According to Costa et al. (2019), CRM is an important tool to provide

access to customer information. Artificial Intelligence can help the company by producing insights for to efficiently manage the relationship (Mogaji et al., 2020).

AI improves marketing management's performance, increases productivity, and makes strategy more efficient overall (Peyravi et al., 2020). According to Capatina et al. (2020), this technology provides the opportunity to monitor and design a strategy that results in competitive advantage. Companies are increasingly looking for ways to make the marketing strategy more efficient, and AI, because enables value creation and is a source of competitive advantages, can be a great solution (Eriksson et al., 2020).

Only after understanding if companies use/want to use AI on Marketing and where, we can inquire the interviewees about the produced effects of this technology in this field. To better understand the difference between the “real”⁴ and the perceived⁵ impacts AI can have on marketing is necessary to separate the interviewees into two groups: the ones that use AI (3, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, and 21) and the ones that do not (1, 2, 4, 13, and 15). Starting with the interviewees that did not introduce this technology, we can observe in the table below the perceived impacts of this technology on Marketing.

Table 21a - AI (“perceived”) impacts on Marketing

Text	Generic Category	Sub-category	Number of times	Interviewees
Makes strategy more efficient	1.2	1.2.1	5	1,2,4,13,15
Tailored Communication	1.2	1.2.1	2	1,2

Source: Author elaboration

Interviewee 1 states that the introduction of Artificial Intelligence results in a more efficient strategy and allows the adaptation of the communication to each customer. Interviewee 2 does not believe AI introduction is very established on Marketing, in their opinion it would make processes more efficient and faster and would help targeting overall. 4 states that AI introduction would increase the knowledge the company has about the customer, resulting in a better performance. 13 suspects that AI introduction

⁴ The impacts companies that introduce this technology report

⁵ The impacts interviewees that do not work with AI think its introduction will have

and automation would make processes more efficient, faster, with less errors and “impersonal”.

And finally, 15 considers the introduction of this technology important in Marketing. About the impacts, they argue that depends on the industry segment and adds that with the Covid-19 pandemic the need to “go digital” and develop e-commerce increased. They believe that it would increase Marketing efficiency overall. The following table shows the impacts mentioned by the second group, the one that use this technology.

Table 21b - AI (“real”) impacts on Marketing

Text	Generic Category	Sub-category	Number of times	Interviewees
Makes strategy more efficient	1.2	1.2.1	13	3,5,6,7,8,9,11,12,14,16,17,18,21
Personalization	1.2	1.2.1	9	3,5,7,10,14,16,17,18,21
Better customer experience	1.2	1.2.1	2	5,21
Cost savings	1.2	1.2.1	2	6,16
Increases productivity	1.2	1.2.1	2	6,19
Easier to measure results and assess performance	1.2	1.2.1	1	3
Competitive advantages	1.2	1.2.1	1	5

Source: Author elaboration

Interviewee 3 states that the amount of information AI systems produce helps in the decision-making process, because it provides access to real-time information, makes easier to measure results and assess performance. The interviewee also mentions the quality of the information that provides insights that allow personalization of the service. 5 considers the introduction of this technology as “very important” in this field, the interviewee describes it as a competitive advantage (and an “aspect that differentiates the company from the competitors”) that makes marketing activities personalized and offers improved customer experiences (that in their opinion is the objective in this area). They also said that its introduction result in the increase of efficiency of the strategy.

Similarly, interviewee 6 states that “AI is an extremely helpful addition to Marketing”, adding that this tool improves productivity, helps in the decision-making and data

management process, results in costs savings and better resource management, makes strategy more efficient. 11 also considers important to introduce AI on Marketing “because this technology has to have a role in the company’s development”, it helps to make “better and faster” decisions and for this reason should have an important role in the routines. 12 states that the systems provide more accurate metrics, therefore makes the strategy more efficient.

7 mentions its ability to manage data and how it results in the production of insights that are extremely important in the decision-making process and helps to personalize the service. 10 also mentions personalization and adds that Marketing is evolving to Marketing 1to1. 8 states that this technology helps Marketers to understand the “quick changes of the markets, customer behaviour” and adapts profiling accordingly.

9 states that even tough Marketing digital is increasingly gaining importance; it is not the only type of Marketing. The interviewee argues that “offline Marketing is just as important, and there is no without the other”. They find it important to have tools that allow the company to work with large volumes of data created from the interaction with the customer. In their opinion data is the most important asset a company can have and “it would be a waste not to use it”. The company using the system can measure the customer journey. They argue that AI in their sector is so important that without using it on marketing is “to be in the previous century”. Also highlights the importance for marketers to know more about this technology. According to interviewee 20, “the entirety of the company’s digital process is influenced by AI- from the lead generation, Google, Facebook and Instagram Adds to SEO”.

14 allows the company to be closer with the customers and to adapt strategy according to the performance indicators. 16 states that AI is already a part of “our reality” and it has positive impacts on the company’s Marketing efforts (cost reduction, insights, personalization of products and content, streamline). 17 argues that Artificial Intelligence has a lot of different usages in Marketing: the development and implementation of retention or propensity models, personalize website experience, chatbots or to gain powerful customer insights. AI provides real-time information important to make decisions and personalize campaigns.

According to 18, AI introduction results on personalization, automation, improvement of quality. 19 mentions the increase in productivity- "Automation frees Marketing to perform other activities". 21 says that AI allows to influence the customer's purchases (by "showing them what they might want to buy") and offers a set of solutions that optimizes the sale process and reinforces the relationship with the customer and increase customer satisfaction (by increasing the service's convenience).

Firstly, is important to highlight that many authors see Marketing as the main beneficiary of the introduction of this technology (Davenport et al., 2020; Peyravi et al., 2020). Garndinetti (2020), believes Artificial Intelligence will produce significant impacts on Marketing. The main difference in Marketing is the collection of electronic data (Peyravi et al., 2020)- collected from websites, customer journey analytics mobile platforms, social media, etc.- from where the system identifies patterns (Mogaji et al., 2020), according to Peyravi et al. (2020) resulted in real-time marketing.

The literature also mentions the automation of the decision-making process- the first step of this process, data collection is already done without human intervention (Costa et al., 2019). Costa et al. (2019) and Overgoor et al. (2019) are some of the authors that highlight AI's ability to generate strategic information from data that otherwise might not exist (because it could be easily missed by Human Intelligence employees). Schrettenbrunnner (2020) states that there is a pressing need to adopt this technology, the author add that domain-fixed predictions lack precision and relevance on today's environment and cannot keep up with competition and market dynamics.

The levels of personalization achieved are related with the last aspect- the data collection that increase the company's knowledge, in this case, about the customer (behaviour, needs, desires) (Capatina et al., 2020; Huang & Rust, 2021b, Kiruthika & Khaddaj, 2017). Mogaji et al. (2020) studied the introduction of Artificial Intelligence on the Marketing Communication process, the authors state that companies can introduce AI in this process to efficiently target, personalize, and deliver content. Due to the information the system has, allows companies to fully automate targeting. As stated above AI can personalize the content based on customer data, it results on the production of a more intuitive and relevant content. Companies can launch campaigns to influence customer purchase choices.

The delivery of personalized content is the last stage of the communication process, here AI can determine the best channel, best content, right time and frequency to engage with customers. Ameen et al. (2021) states that with the amount of information companies now have access to, they can increase the customer's interest in shopping, adding that AI and ML algorithms' primary focus is personalization and the fact that they are more accurate than HI at predicting and suggestion activities.

Not only are faster - (Insight, 2020; Mogaji et al., 2020; Overgoor et al., 2020), more precise (Overgoor et al., 2020; Quan & Sanderson, 2018; Rivera Estrada & Sánchez Salazar, 2016), more resistant (Rivera Estrada & Sánchez Salazar), evolve faster (Quan & Sanderson, 2018; Rivera Estrada & Sánchez Salazar, 2016), but also produce less errors (Hollebeek et al., 2021; Mesquita, 2017; Overgoor et al., 2020; Xu et al., 2020) than humans.

Results are easily measured, like interviewee 3 stated, because companies, when introduce AI, have access to real time indicators, and according to Schrettenbrunnner (2020), this technology's forecasts are automated- happen in real time, allowing to measure the prognosis before the predicted event; during-Capatina et al. (2020) states that AI offers real-time competitive advantage analytics, monitoring if the price, promotion, product announcements, etc. are appropriate for which cluster (of customers) according with their buying stage; Davenport et al. (2020) states that the system can predict what the customer will be likely to buy and automatically target them through advertisement; and Xu et al. (2020) states that AI can evaluate real time scenarios. Provides opportunity to monitor the strategy and adapt accordingly (Capatina et al., 2020).

The process increasingly becomes more efficient every time they perform a task. Erkişon et al. (2020) accredits AI's efficiency to its following characteristics: ability to perceive the environment, its reasoning, memory, learning and problem-solving activities, and its goal-oriented action. About the cost savings: Peyravi et al. (2020) states that it happens because AI is highly scalable, while Costa et al. (2019) accredit cost reduction to the amount of information that helps companies to understand their problems and market opportunities.

6.4 Understand the impact of Artificial Intelligence Introduction on Customer-Brand Relationship

This research question is too vague, to fully understand this issue, it was important to make introductory questions such as: Do you use Artificial Intelligence to engage directly with the customers? How does personalization influences customer retention? and How companies translate the use of AI into customer loyalty? We know that the relationship the customers develop with the brands depends on customer satisfaction and their engagement but also translates into the increase of customer loyalty.

Even though all of the interviewees were asked: "Do you use Artificial Intelligence to engage directly with the customer?" the table below does not show the interviewees that did not use Artificial Intelligence (1, 2, 4, 13, and 15) since logically all answered negatively to this question. It also makes it easier to notice that not all the interviewees that use AI use chatbots.

Table 22 - Distribution of companies by the use of chatbots

Text	Generic Category	Sub-category	Number of times	Interviewees
Yes	1.2	1.2.2	11	3,5,8,9,11,12, 14,16,17,18,21
No	1.2	1.2.2	5	6,7,10,19,20

Source: Author's elaboration

Most of the interviewees that said that use AI also use chatbots (68,75%), only five of them do not. Interviewees 5, 8, 9 and 14 stated that they use chatbots but did not elaborate on the tasks they perform. 3 explains that the company reserves use of this technology for frequently asked questions (questions with low variety, asked many times and with the same answer).

Interviewee 11 describes that chatbots are not continuously used in a regular basis in customer support, however, the company used it punctually, when it could not respond to the volume of contacts (for example for a product launch). 12, similarly to the previous, uses this technology "when convenient", to respond to customer needs. 16 highlights this technology's ability to add value to the customer experience and increase customer engagement. 17 argues that companies make the decision to use AI to engage with customers (mostly done through the use of chatbots) with the "Revenue vs. Cost formula" in mind. They also add that there are much more factors that influence this

decision, such as brand awareness, the relationship with the customer, customer loyalty and customer satisfaction- according to the interviewee, all of those are important to factor in the decision “because focusing only on immediate results can be very misleading”. 18 justifies the use of chatbots due to its business impact, the ability to save costs and the ability to offer a higher service quality. And finally, 21 states that the use of chatbot is internal⁶.

Although HI employees perform better “Feeling tasks”, companies can use AI to augment it, Huang & Rust (2021b) state that, for this reason, companies can use chatbots to solve routine questions/issues (like interviewee 3 claims). According to Xu et al. (2020) AI can provide effective and engaging customer service. It increases the service's convenience- creates value by saving time- which results in higher levels of customer satisfaction (interviewees 16, 17 and 18). According to Ping et al. (2019), companies use chatbots to perform simple and specific tasks and work with HI to ensure the answers to every customer question (relating to what 11 and 12 described).

The literature reviews, and (subsequently) the answers of the interviewees, highlight the importance of Personalization. Becoming essential to understand the impact of personalization in the customer relationship, and, consequently in customer retention.

Table 23 - Does Personalization result in customer retention

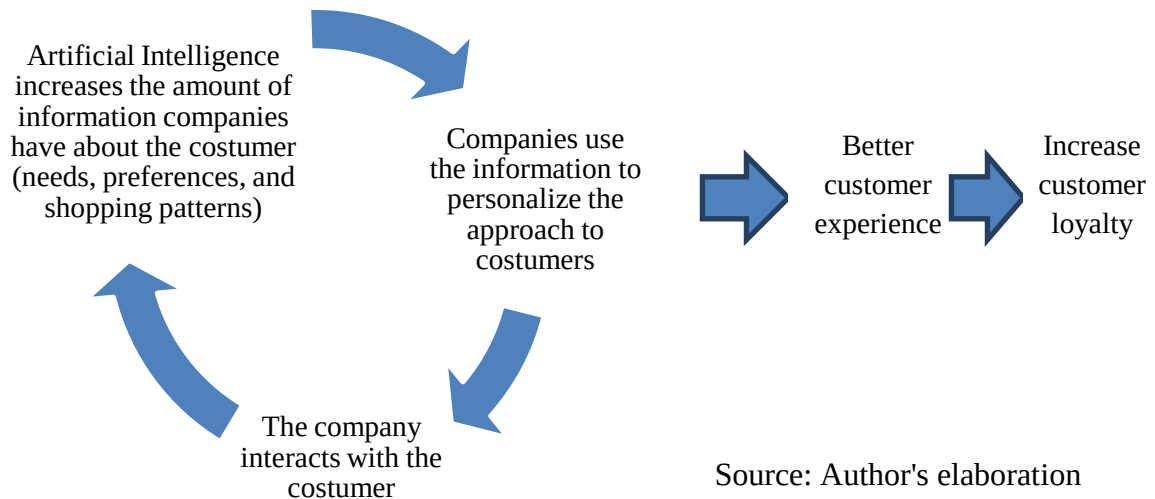
Text	Generic Category	Sub-category	Number of times	Interviewees
Yes	1.2	1.2.2	21	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21
No	1.2	1.2.2	0	

Source: Author's elaboration

All of the interviewees describe personalization as a key factor for the increase in customer satisfaction and in the creation of a good customer experience, which over time translates in the increase of customer loyalty. Considering that personalization helps customer retention, and the fact that Artificial Intelligence increases the levels of personalization achieve, how much does Artificial Intelligence impacts customer loyalty.

⁶ It is essential to notice that despite not understanding what the interviewee 21 means with “the company reserves it (chatbot) for internal use”, because I did not want to interrupt their “train of thoughts” I did not ask to clarify the statement, and later forgot to go back to it.

Figure 10 - Artificial Intelligence impact on customer loyalty



Most of the interviewees, for various reasons agree that Artificial Intelligence positively affects customer loyalty. The only that did not agree was interviewee 13 that states that “Artificial Intelligence does not influence customer loyalty, because the *human* relationship is way more impactful than what AI can achieve”. Interviewee 14 also mentions “how vital” human interaction with the customer is, but believes that AI introduction results in the increase of customer loyalty, claiming that the use of chatbots makes the service more convenient “helps the client to solve specific questions automatically”.

Interviewee 1, 5, 6, 7, 12, 15 state that as personalization increases customer retention, and because AI allows to have access to more information, that companies later use it to personalize the service, AI positively affects customer loyalty. 2 says that AI facilitates customer understanding and allows real-time decision and predictive behaviour analysis that allows the system to adapt to any changes. Similarly, 4 points out that AI produces information that “brings the brand closer to the customer”.

Interviewee 3 states that the customer already expect a faster reaction and a more personalized approach, also remind us that if companies cannot match customer expectations, they will look for alternatives in competitors. 8 claims that “customers should be treated fairly, with transparency, clear information, and proper advice”. Even though AI cannot replace “human relationship”, it provides more information about the customer and help to fulfil their needs and offer them an “excellent journey and lifetime value experience”.

In 9's opinion, the customer loyalty is closely linked with the customer-brand relationship developed. In their industry, the levels of turn-over are high, which with people leaving; the relationships they created while working for the company could be lost. So, companies have to look for solutions to attenuate this situation- AI is a great tool for that, it can create a coherent message and maintain the relationship even if the employee leaves the customer. They offer e-mail marketing as an example, it can work relatively well without the use of Artificial Intelligence with good results. They add that this technology can create the profiles and automates this process, making it much easier. Interviewee 9 says that loyalty depends on the product sold, and in this industry the contact with the customer has to be very continuous and over time to work and it is more noticeable in WOM.

Interviewee 10 says that a machine without AI cannot effectively and efficiently achieve personalization. They describe Marketing evolution- “from Mass Marketing, where everything is equal to all customers, to a *group* marketing, where there is an attempt of personalization, through segmenting and the creation of profiles, and now we are moving towards Marketing 1to1”. To achieve this last “type” of Marketing is necessary to use AI- Marketing 1to1 only using HI is a call centre, which, unfortunately companies cannot scale. According to the interviewee the only way to achieve hyperpersonalization of the communication- due to the system's learning ability that allows to personalize the “message's content” and predicts the next best action. They add that, in practice, AI bases the majority of what happens in social media- it helps microsegmentation. They argue that AI increases the knowledge the company has about the customer, “personalize the message and offers content that addicts the customer which, consequently, increases customer loyalty.

Interviewees 16, 17, 18, 19, 20 and 21 argue that AI increases customer loyalty because it allows to produce personalized content that produce a better experience, therefore meeting the user's expectations, that will ultimately drive retention/loyalty.

According to the Literature Review Customer Satisfaction concerns how well a company fulfilled the customer needs and desires. A satisfied customer is more likely to frequently buy from the company and to recommend it to others- WOM (Ping et al., 2019). Customer loyalty represents the customer's dedication or fidelity to a company, manifested by their willingness to (re)purchase a product or service. A loyal customer purchase recurrently from the brand and is not influenced by marketing strategies. According to Ping et al. (2019), a loyal customer is the best asset a company might have – reduces the marketing expenses and attracts new customers through WOM.

The authors state that there is a lot of adding activities (tangible or intangible) that can be directly or indirectly related with the increase of customer satisfaction and loyalty. Companies should see Customer Service as the of delivery a product or service based on the customer's needs-and includes problem-solving assistance, offer advice, and provide empathy. Ping et al. (2019) reinforces their argument by stating that when a company invest on customer service, tends to be rewarded with the increase of brand loyalty, better competitive advantages and higher profits.

Xu et al. (2020) believe that AI introduction on customer service increases its convenience (the service becomes available 24/7, creates value by saving time) results in the increase of customer satisfaction, and consequently the increase customer loyalty. Grandinetti et al. (2020) claims that AI can achieve high levels of customer satisfaction and loyalty. It is mostly due to its ability to personalize the service and provide different offers for different customers. Huang & Rust (2021b) also justifies the increase of customer loyalty with this system ability to extremely personalize the offers.

Ameen et al. (2021) states that trust affects personalization- since the ladder highly depends on large volumes of customer data, the authors also added that trust is a mediator in the relationship between loyalty and service quality- If a customer trusts a company⁷, more likely will the customer to be loyal to a brand.

⁷ Just a reminder that trust in AI-enabled services include: the trust in the brand, their technologies, and in the purpose that companies use them.

Chapter VII– Conclusion

7.1 Final Considerations

This research's main objective was to understand whether and how companies in Portugal are introducing Artificial Intelligence, especially in Marketing and the impacts of this decision. To this end, I carried out the literature review about the themes of Marketing and Artificial Intelligence. Subsequently, the research questions: *Do companies in Portugal Introduce Artificial Intelligence? If not, Are they Willing? How does Artificial Intelligence Introduction impact Marketing? How is the Customer-Brand Relationship affected?* To assess it, I performed the content analysis of twenty-one interviews with Professionals familiar with the theme- most of them (8 interviewees), Marketing Managers (38%), followed by 3 Heads of Marketing (14%), 2 CEOs (10%), and others (38%). Across different activity sectors- five Fast Moving Consumer Goods, four Real Estate, four Pharmaceuticals, Three Creativity agencies, one Retailer, one Insurance company, one Market Studies Agency, one NGO and one Credit Union.

The majority of the interviewees (76,2%) works in a company that uses Artificial Intelligence. From this group, we can observe that: only one from the Fast Moving Consumer Goods (interviewee 15) did not introduce this technology. All interviewees from the Real Estate sector introduced AI. Half of the interviewees from the Pharmaceutical Industry use AI, while only one Creativity agency (10) adopts it. From the rest of the industries, only the Market studies agency did not introduce Artificial Intelligence.

For the remaining 23,8%, the main obstacle for the introduction is how much the company values the relationship with the customer and the fear that AI could damage it. The majority of them, three out of five- two creativity agents (4 and 13) and an FMCG (15)- add that they do not feel the need to introduce it yet. To compare if 76,2% of the interviewees overcame the obstacles mentioned by the others, I asked the main difficulties in AI adoption.

The reasons that overlap are the cost of investment (mentioned by 15 out of 21), the effect it could have on the relationship with the customer (pointed out by 9), and data related issues- data collection, privacy, security, and amounts (named by 6). Interviewees 5, 7 and 9 believe that the main impediment for Artificial Introduction in

companies is when senior management does not understand the benefits of this technology and interviewees 5, 9, 19, and 21 also highlight the lack of knowledge surrounding this technology.

In contrast, the main reason presented for the introduction was the degree of Personalization achieved (mentioned by 13 interviewees) and the ability to provide important strategic information (11/21). For the remaining 23,8%, the main obstacle for the introduction is how much the company values the relationship with the customer and the fear that AI could damage it. The majority of them, three out of five- two creativity agents (4 and 13) and an FMCG (15)- add that they do not feel the need to introduce it yet.

To compare if 76,2% of the interviewees overcame the obstacles mentioned by the others, I asked the main difficulties in AI adoption. When investigating if the interviewees consider this technology as a competitive advantage, only one (interviewee 21) responded negatively. Despite using this technology, the interviewee only sees it as a tool and "nothing more". The rest, 95% of the interviewees, sees it as a competitive advantage, mostly because of its strategic benefits (presented by 1, 3, 5, 6, 7, 9, 11, 12, 14, 18, 19 and 20) and the increase in efficiency (highlighted by 5, 6, 11, 14, 17 and 18).

I was surprised by the answers given when assessing if the interviewees felt pressure to introduce this technology, even though there was a clear separation- with 62% responding affirmatively. The response from interviewee 21 confused me- they did not consider AI as a competitive advantage but still felt pressure to introduce this technology. Interviewee 6, despite having introduced AI, considers it a competitive advantage, and stating "a good competitor must use this technology. (...) and all of the Top organizations use it", does not feel any pressure.

Interviewee 10 states that "probably 99% of the Portuguese business system does not and will not feel pressure". When asked about the survival of the companies that "do not and will not know" about this technology, the interviewee offered a comment that I haven't realized yet- "Companies are similar to people in this aspect. People are not aware that they are dying until they do". When assessing if companies use/want to use Artificial Intelligence: 14, even though they use AI, they do not use it on Marketing.

And from the five interviewees that did not introduce this technology, only two of them do not want to introduce it (4 and 13).

Like the literature review predicted, the main use of AI in Marketing is in the decision-making process. Interviewees also mentioned the quantity and quality of data the system produce that provide companies with more knowledge about the company, customers, competitors, and the market, which later uses it to personalize the service. In this research, I found out that from the 16 interviewees that use Artificial Intelligence, 11 of them uses chatbots to engage with customers.

When asked about the impacts this technology has on Marketing, the majority stated that it makes strategy more efficient, faster and less subjective. The amount of information the system produce allows the company to personalize the offer, resulting in a better customer experience.

Like the literature review predicted, all of the interviewees believe that personalization has a positive impact on customer retention. When asked how Artificial Intelligence could affect customer loyalty, all explained that AI increases the amounts of data companies have about the customers, which, consequently, increases the levels of personalization achieved, and like the answers above state, personalization increases customer satisfaction, which results on the increase in loyalty.

7.2 Specific Contributions

This research contributes for the development of the discussion of the state of the art concerning topic of the Artificial Intelligence's introduction in companies, addressing the main challenges, benefits and the potential effects on competitiveness and performance levels. It also discusses how companies use this technology on Marketing and its consequential implications on the decision-making process and the customer-brand relationship.

In this regard, this research contributes to the development of the business field in four different ways: a) framing this research in an analysis of different perspectives and definitions about the introduction of Artificial Intelligence on Marketing, and the development of Marketing AI applications; b) realizing the extent of AI introduction in companies located in Portugal, while researching the reasons to introduce this technology, the challenges, how the professionals perceive this technology, and risks

companies face by not adopting it; c) examine if said companies introduced Artificial Intelligence on Marketing, and the result of this decision; and finally, d) understanding how the customer-brand relationship might be affected by Artificial Intelligence. Thus, allowing the conceptualization of new questions for the exploration of this theme.

7.3 Research limitations and Suggestions for future research

Firstly, it is essential to keep in mind that the findings presented in this research are the result of inherent limitations of a small sample (both in interviewees and the companies' sectors). In this regard, the external validity, meaning there is no possibility to generalize the obtained results for other contexts or samples, even though this research produced some findings that are in conformity with the theory exposed in the literature review, it is only an exploratory study.

It is important to carry out in-depth research that analyzes and characterizes the theme in detail, to permit the identification of the knowledge required to understand new marketing applications. It would be enthralling to speak with more professionals in different industry sectors, collecting and analysing more data to have a deeper understanding of this theme.

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Appendix 1

Interview script:

Q1- Does the company you work for uses Artificial Intelligence?

Q2- What are the challenges/obstacles in AI introduction?

Q3- What are the main reasons to introduce this technology?

Q4- Do you consider Artificial Intelligence as a competitive advantage?

Q5- Do you feel pressure to introduce this technology?

Q6- Do you/want to use AI on Marketing? Where?

Q7- What is/will be the impact of this technology?

Q8- Does the company uses Artificial Intelligence to engage directly with the customer?
How?

Q9- How does personalization affect the customer retention?

Q10- How does Artificial Intelligence affect customer loyalty?