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HOW TO ADOPT ARTIFICIAL INTELLIGENCE IN B2B MARKETING CONTEXT: AN EMPIRICAL GUIDELINE

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Summary

In an era defined by rapid technological advancements, one phenomenon stands out as a beacon of innovation and transformative potential: Artificial Intelligence (AI). With its remarkable ability to simulate human intelligence, AI has emerged as a disruptive force that is reshaping industries and revolutionizing problem-solving. With all these features it has come into widespread awareness, becoming the future of the business world. Nowadays, it drives almost every business unit and Customer Relationship Management (CRM) in one area that is benefiting the most in leveraging better customer experience. For organizations to fully utilize AI, there needs to be an understanding of how to implement it successfully. This thesis explores the significance of AI adoption in business-to-business (B2B) marketing, emphasizing the need for alignment, collaboration, and shared vision within organizations. Since there is a lack of literature approaching this topic, the main objective of this study is to draw a path, a guideline, to describe how to successfully adopt AI in B2B businesses. This study will describe how to evaluate the feasibility of an AI adoption before routing for concrete realization. Central to this effort is the pivotal role of CRM and its enhancement, which are integral to achieving business success in the realm of B2B marketing.

To outline the AI adoption journey, this thesis has been written combining the literature with the well-established steps used to complete a CRM project by OpenSymbol, the first CRM company in Italy. The developed pathway, called the "5D-4I process", has been trained in three different case studies. It aims firstly to

study the environment the company operates in and the necessities, understand if the introduction of AI is feasible, and later establish its concrete creation.

By providing in-depth case studies and a comprehensive guideline, this research offers valuable insights into the process of AI integration and its effects on marketing strategies and practices.

The presented guideline can be further used by all the companies that aspire to optimize processes, improve efficiency, and provide valuable information for better decision-making and simultaneously sustain a competitive advantage.

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Introduction

Chapter 1 aims to provide a comprehensive understanding of the context in which this text operates: Artificial Intelligence (AI) and Machine Learning (ML). Nowadays it is a common misconception to perceive the data world exclusively as an AI and chatbot domain. However, the reality is that the data world encompasses various data working methods, including AI and ML. Through a thorough literature study, this chapter will explore the definitions, differences, benefits, barriers, and applications of AI in B2B marketing, where the role of CRM (Customer Relationship Management) and its enhancement is fundamental to business success. The purpose is to establish the foundation for the second part of Chapter 1, where we will delve into the identification of the literature. That is where it will emerge the main gap this thesis wants to fill: the need for clear definitions and descriptions of a definitive path to introduce AI in a B2B marketing context.

In Chapter 2, we will address essential questions that must be considered before embarking on an AI adoption journey. It will become evident that there is no predetermined, straightforward path that enables companies to rapidly introduce AI while ensuring optimal outcomes. Instead, a detailed approach is required, starting with an analysis of project feasibility. Only after clarifying the overarching goals, determining suitable implementation areas for AI, identifying areas for improvement, and understanding the underlying motivations, can companies effectively move toward the development of a concrete result.

Given the identified literature gap, the first part of Chapter 3 will focus on filling it by examining the approach taken by OpenSymbol, Italy's first CRM company with extensive experience in the B2B industry in realizing CRM and digital marketing projects.

Thanks to this analysis, in the second part of Chapter 3 a final result will be presented, merging insights from the literature with the OpenSymbol model. The outcome is the development of a practical and tangible guideline for companies seeking to adopt AI into their businesses. This path will underline the need for an initial study upon feasibility analysis, and, only after its confirmation, a journey to develop concrete results can begin.

To validate the effectiveness of this newly derived path, its application has been tested (for what concerns the first stages) with three companies. Their respective journeys will be detailed in Chapter 4. Subsequently, we will present the results obtained from these case studies, followed by comprehensive discussions.

General conclusions will then be drawn, encapsulating the insights garnered throughout the text. Lastly, we will address limitations and provide directions for future research.

Chapter 1

Literature

Through an extensive review of the literature, this chapter aims to provide a comprehensive and holistic understanding of the world this thesis operates in: Artificial Intelligence and Machine Learning.

The study delves into the definition of AI and ML, underlying concepts and techniques, and exploring their potential and limitations before introducing emerging applications.

These notions will be beforehand coherently contextualized in the B2B marketing area in which nowadays CRM is a theme that cannot be overlooked. As such, a clear and holistic definition of CRM will be provided. Then, motivations, drivers, critical areas of potential use and barriers of AI Adoption in B2B Marketing will be uncovered. After this first contextualization, the available literature about the AI adoption approach will be handed over.

1.1 Artificial Intelligence vs Machine Learning definition

In a business world dominated by data, nowadays it is fundamental to understand how to operate with them to earn the most from their availability: AI and ML make it possible to implement and use these data to simplify and improve employees' and customers' life by analysis, prediction, planning of the next steps and automation

of tasks and decisions contributing ultimately to economic growth (Manyika J. et al. 2018).

1.1.1 Artificial Intelligence: presentation

Artificial Intelligence is defined as "a system's ability to correctly interpret external data, to learn from such data and to use those learnings to achieve specific goals and tasks through flexible adaptation" (Chen et al., 2022).

AI refers to the development and deployment of computer systems which can perform tasks that typically require human intelligence. These systems are designed to learn, reason, and make decisions based on data, algorithms, and models (Kumar et al., 2021). AI encompasses a wide range of techniques and approaches, including machine learning, deep learning, natural language processing, computer vision and robotics.

In recent years AI has made significant advancements driven by the availability of vast amounts of data, improvements in computing power, and breakthroughs in algorithms (Manyika J. et al. 2018). Current AI systems are capable of performing complex tasks, such as image and speech recognition, natural language understanding, recommendation systems, and autonomous driving. Thanks to these abilities it has found applications in diverse domains, including healthcare, finance, transportation, education, cybersecurity, and entertainment.

In all these different environments, by virtue of its power, AI offers irresistible benefits. For companies and their employees, advantages involve automation and efficiency: AI can automate repetitive and mundane tasks, leading to increased

productivity and efficiency (Kumar, 2016). Specifically, 78% of organizations implementing AI increase operational efficiency by more than 10% (Stancombe Christopher Tolido et al., 2017).

Thanks to this mechanization, AI algorithms can achieve high accuracy and precision (Kumar V. & Pansari A., 2016) in tasks such as image recognition and data analysis. According to (Stancombe Christopher Tolido et al., 2017) 79% of organizations implementing AI generate new insights and better analysis. Moreover, AI's power to process and analyze vast amounts of data quickly enables better decision-making and problem-solving, while providing personalized experiences and recommendations tailored to individual preferences and needs. 79% of organizations implementing AI generate new insights and better analysis. Moreover, AI's power to process and analyze vast amounts of data quickly enables better decision-making and problem-solving, while providing personalized experiences and recommendations tailored to individual preferences and needs.

As a result of these features, among its specific uses, AI has the potential to revolutionize healthcare, aiding in early disease detection, treatment planning, and drug discovery, while in creative fields like art, music, and design, AI technologies may collaborate with humans to enhance creative processes.

From a customer perspective, AI provides and raises value in multiple ways (Kumar V. & Pansari A., 2016). Data reported in Stancombe (2017) asserts that 75% of organizations using AI enhance customer satisfaction by more than 10%. AI clearly enhances the customer experience by providing functional ease in performing

routine tasks, like already filling some forms with the basic and usual information, and by augmenting the feeling of personal relevance: customers receive proactive communications about their devices or activities in real-time, giving them the opportunity to take specific actions to enjoy specific benefits and an exercise greater flexibility in how and where they choose to interact with a firm depending on their personal preferences (Kumar & Pansari, 2016). These perceived customer benefits end up in an effective firm-customer engagement. As explained in (Kumar & Pansari, 2016), when clients receive offerings and communications that are personalized to their needs and preferences, they are more inclined to directly contribute by purchasing the firm's products or consuming its services, as well as by referring the firm's offerings to other customers, creating word-of-mouth on social media, and providing feedback. According to (Kumar V. & Pansari A., 2016) when clients receive offerings and communications that are personalized to their needs and preferences, they are more inclined to directly contribute by purchasing the firm's products or consuming its services, as well as by referring the firm's offerings to other customers, creating word-of-mouth on social media, and providing feedback.

Watching all the benefits from a sales prospect it becomes evident what is reported in (Stancombe Christopher Tolido et al., 2017) script: 3 in 4 organizations implementing AI increase sales of new products and services by more than 10%. As recorded, AI increases sales of both traditional products and services and new products and services by up to 74%.

Above all these advantages, some negative sides are mentioned in the literature, so they should be considered as points to deem or better improve, even if in this script they will not be investigated.

One of the primary concerns is job displacement, as AI automation may lead to job losses and necessitate workforce reskilling to adapt to changing roles and demands. Potentially, the widespread adoption of AI could exacerbate socioeconomic inequalities, raising questions about its impact on different segments of society.

Moreover, AI systems have the potential to inherit and perpetuate biases present in the training data, giving rise to concerns about fairness, transparency, and ethical implications. The ethical dilemmas introduced by AI extend beyond bias and encompass issues like privacy and accountability in decision-making algorithms.

While AI can perform complex tasks, it lacks human-like intuition, creativity, and common-sense reasoning. This limitation can impact its ability to fully comprehend context and nuances in various situations.

Additionally, over-reliance on AI systems can create vulnerabilities and potential security risks. Privacy is a high concern in this context, and companies continuously study and monitor the delicate topic.

To effectively navigate these challenges and harness the potential of AI, organizations and policymakers must address these complex issues responsibly and proactively. By doing so, they can ensure a more equitable, secure, and ethically sound integration of AI technology.

Overall, AI is poised to continuously transform industries and society, offering tremendous potential for innovation, while also requiring responsible development, ethical considerations, and collaborative human-machine partnerships.

1.1.2 Machine Learning: presentation

Machine Learning is the subset of Artificial Intelligence that focuses on the development of algorithms and models which allow computers to learn and make predictions or decisions without being explicitly programmed for every task (Stancombe Christopher Tolido et al., 2017). It can perform highly frequent, large scale, computerized analysis on huge datasets accurately and reliably while increasing accuracy (Kumar & Pansari, 2016).

In traditional programming, developers write explicit instructions for a computer to follow, defining the logic and rules for performing a specific task: instead, in machine learning, algorithms are designed to learn from data and improve their performance over time (Chen et al., 2022). They use statistical techniques to analyze and identify patterns in data from which they learn to make predictions, classify data, or make decisions. The process of learning involves training the algorithms on a dataset called the “training data”, which contains input data and their corresponding desired outputs or labels. The algorithms adjust their internal parameters based on the patterns observed in the training data, allowing them to generalize and make predictions on new, unseen data. Later, the result will be tested with the “test data”.

There are several types of ML algorithms, and, according to Lee et al. (2019), the most common are: 1) Supervised Learning algorithms that make predictions or

classifications based on patterns learned from labelled training data, where the desired output is known, 2) Unsupervised Learning algorithms that learn from unlabelled data, where the desired output is not provided, and 3) Reinforcement Learning algorithms that learn by interacting with an environment and receiving feedback in the form of rewards or penalties, optimizing their actions to maximize the cumulative reward over time.

ML offers several advantages (Kumar & Pansari, 2016): as AI, from a customer perspective it provides a better experience with products and services by handing over personalized communication, products and services. Firms find benefits thanks to its automation power that works on repetitive tasks, which lead them to increase efficiency and reduce human effort. By handling routine analysis, ML algorithms allow employees to manage more complex analysis and customer interactions. As emerged in the description, ML algorithms can perform large-scale analyses iteratively and accurately, without fatigue, and being adaptable and adjust to new data (Kumar & Pansari, 2016). They can learn and improve their performance over time and identify complex patterns or relationships in large datasets that may not be obvious to humans.

However, there are also challenges and considerations associated with ML and especially its data, which need to constantly be addressed when approaching the construction of a new algorithm. First, ML algorithms heavily depend on the *quality* and representativeness of the training *data*, making *biased* or unrepresentative data a potential source of biased or inaccurate predictions. Another challenge is *overfitting*, where ML algorithms become too specialized in the training data,

resulting in failure to generalize well to new, unseen data. Additionally, some complex ML models lack *interpretability*, posing difficulties in comprehending and explaining their decision-making process, raising concerns about transparency and trust. Lastly, *ethical considerations* arise due to potential privacy concerns, algorithmic bias, and fairness in decision-making. Addressing these challenges is crucial to harnessing the full potential of ML in various applications.

Overall, Machine Learning is a powerful tool for extracting insights, making predictions, and automating tasks, but it requires careful consideration, especially in data quality and model selection.

1.1.3 Emerging Applications of AI and ML: A Comprehensive Overview and CRM Perspectives

Despite the common misconception, the primary distinctions between AI and ML have just been presented. Today, people tend to refer to all data world as Artificial Intelligence. However, it is the abundance of data that has enabled and will continue to permit the existence of AI and ML. The integration of ML into AI becomes feasible in the data world, creating a collaborative environment where companies can reap significant benefits. This collaboration gives rise to nine main key application contexts:

- *Natural language processing (NLP):* ML algorithms process and understand human language, enabling applications like chatbots, language translation, sentiment analysis, and text generation.
- *Computer vision*: It focuses on enabling computers to gain an understanding of visual information from digital images or videos. It involves algorithms

and techniques to analyze, interpret, and extract meaningful information from visual data. It is used in applications such as image recognition, object detection, facial recognition, video tracking, and autonomous vehicles.

- *Virtual Assistant Chatbot*: It is an AI-powered program designed to interact with users through a conversational interface. Thanks to natural language processing (NLP) techniques, it understands and responds to user queries or commands. Virtual assistant chatbots are commonly used in customer support, providing information, performing tasks, or assisting users with various needs.
- *Recommendation system*: ML algorithms analyze user preferences and behavior to make personalized recommendations, such as in e-commerce, streaming platforms, or content filtering.
- *Predictive Analytics*: ML algorithms analyze historical data to make predictions or forecasts in areas like sales forecasting, demand planning, and risk assessment.
- *Intelligent Data Processing*: It refers to the use of algorithms and AI techniques to extract valuable insights, patterns, and knowledge from large volumes of data. It involves applying machine learning, natural language processing, and data mining techniques to process and analyze data in an automated and intelligent manner. To make data-driven decisions, predict trends, identify anomalies, and optimize processes.
- *Intelligent Object*: An intelligent object refers to an object or device that is enhanced with AI capabilities to perform tasks or interact with its

environment autonomously. These objects are equipped with sensors, actuators, and embedded AI algorithms that enable them to perceive their surroundings, make decisions, and carry out actions. Examples of intelligent objects include smart home devices, wearable gadgets, and industrial IoT devices.

- *Autonomous Vehicle*: Also known as a self-driving or driverless vehicle, an autonomous vehicle is a vehicle that can navigate and operate without human intervention. It uses a combination of sensors, cameras, radar, lidar, and algorithms to perceive its environment, make decisions, and control its movement. They have the potential to revolutionize transportation by improving safety, efficiency, and accessibility.
- *Autonomous Robot*: It is a machine or device that can perform tasks or actions without human intervention. It is equipped with sensors, actuators, and AI algorithms that enable it to perceive its environment, make decisions, and carry out actions autonomously. Autonomous robots are used in various domains such as manufacturing, healthcare, logistics, and exploration. They can perform repetitive tasks, assist humans in complex operations, and operate in hazardous or challenging environments.

Seeing them from a CRM perspective, where the main objective is to manage the analysis and suggest smart recommendations to help users and customers while improving their experience, the main possible uses in this field are (Libai et al., 2020):

- Customer Data Analysis
- Chatbots and Virtual Assistants

- Personalized Recommendations
- Sentiment Analysis
- Computer vision
- Voice and Speech Recognition
- Predictive Analytics.

1.2 AI adoption in B2B marketing

To determine whether to initiate the adoption of AI, it is crucial to conduct a thorough analysis of both the benefits and obstacles associated with this implementation.

Considering the competitive scenario of the business world and with high volumes of data, scarce resources, and the need for speed in decision-making, many organizations are motivated to adopt AI technologies, mainly by exploiting their disruptive potential demonstrated by top digital corporations. Aware that the disruption process requires a review of the business strategy, different leaders are reformulating their strategic plans for the insertion of AI technologies (Borges et al., 2020). The current landscape presents an opportune moment for B2B companies to embrace AI, as it can drive a firm's performance to gain and sustain a competitive advantage (Dwivedi & Wang, 2022) while delivering immediate benefits.

While there have been discussions and success stories about AI in the B2C context, its application in B2B marketing is still in its early stages. Moradi & Dass (2022)'s analysis of industry surveys reveals that 37% of B2B marketers have already implemented AI in their strategies. This low percentage can be attributed to the

barriers to adoption and limited knowledge of various AI methods and implications among marketers. Previous research has given limited attention to the role of AI in B2B marketing and the potential benefits it can offer companies (Moradi & Dass, 2022). Numerous obstacles impede the widespread adoption of AI in B2B marketing. These challenges include a lack of clear understanding of AI's potential among B2B marketers, concerns about data quality and analysis, difficulties associated with digital transformation, a perceived shortage of trained staff, and concerns about costs.

When considering AI adoption within the framework of B2B marketing, the study of CRM cannot be disregarded: in fact, all companies are undergoing a shift towards a *servitization* perspective, and, for B2B businesses, this means that they must not only work for the service generated for their direct customers but also consider all the actors all along the path toward the final customer. Therefore, a concise definition of CRM will be provided in the following discussion.

1.2.1 Customer Relationship Management: a strategic approach

Customer relationship management is a strategic, cross-functional, and holistic process-based approach (Ledro et al., 2022) that involves the collection, management, and intelligent utilization of data supported by technology solutions. The aim is to develop valuable relationships with key customers and provide exceptional customer experiences (Boulding et al., 2005).

To avoid confusion, it is essential to distinguish between the various software products labelled as CRM and the relationship-focused, macro-business CRM process (Lambert, 2009). CRM should be regarded as a "management process that

uses individual customer data to enable a tailored and mutually trustable value proposition" (Robert Johnston, 2012) rather than being narrowly defined by technology-oriented perspectives (Robert Johnston, 2012). Consistent with this viewpoint, it becomes essential to situate CRM within the strategic organizational context: a successful implementation of CRM necessitates a comprehensive and balanced approach that encompasses technology, processes, and people, all aimed at gaining deep insights into the company's customers (Buttle, 2009). Nowadays, as servitization catches on, organizations that effectively implement CRM enjoy benefits from customer loyalty to long-term profitability (Catalan-Matamoros, 2012). It is therefore a topic that cannot be disregarded in the construction of a B2B process that concerns strategy.

1.2.2 Motivations and drivers of AI adoption in B2B marketing

Organizations across industries are increasingly using AI systems to support their innovation processes, supply chains, marketing, sales, and other business functions. When implementing AI, firms report efficiency gains from automation and enhanced decision-making thanks to more relevant, accurate and timely predictions (Leszkiewicz et al., 2022).

Adopting AI on different stakeholders within a B2B organization generates different effects. To analyze so, it is necessary to employ a cost-benefit framework and define the *social value* of AI as the collective value generated from the AI adoption by a B2B organization for multiple stakeholders (Leszkiewicz et al., 2022). Specifically, the social value of AI encompasses the trade-off between the

benefits and enhancements offered by this technology to the stakeholders, and the costs and concerns associated with it. Looking at the benefits, the focus directs on two aspects of AI: AI can perform tasks faster and with fewer errors than humans, which leads to efficiency gains, and AI's ability to analyze vast amounts of data, which leads to better, more timely predictions and enhanced decision-making. Therefore, AI enables automation and predictive analytics, inspecting vast amounts of data, which leads to better, more timely predictions and enhanced decision-making. Therefore, AI enables automation and predictive analytics making, which have powerful implications for stakeholders of a B2B company.

For a deepest study, the impact of AI can be explored among three main stakeholders' groups: 1) internal stakeholders within the firm (such as executives and employees), 2) business customers, supply chain partners, and 3) society at large. The detail can be presented as follows (Leszkiewicz et al., 2022):

1) AI creates value within the firm:

- *Improving work quality and employee engagement*: AI facilitates the automation of well-structured, repetitive, and tedious tasks, which are performed faster and with fewer errors compared to human employees, thereby enhancing overall labor quality and consistency. Additionally, AI enables human-machine interactions, such as through customer service chatbots, which can be as effective and productive as human employees. As a result, AI allows employees to allocate their capacity to engage in less structured but more creative tasks, which has been associated with higher levels of employee engagement (Kumar & Pansari. A., 2016).

- *Improved process automation to avoid human deficiencies* (Chen et al., 2022): *Human subjectivity* makes people rely on intuition or guesswork to determine customer acquisition, B2B sales prediction, or marketing data analysis, which results in inaccurate prediction and waste of resources. Human inefficiencies regard the processing of large amounts of data or information which can be difficult, time-consuming, and costly. In addition, negotiation efficiency is reduced by cultural gaps, self-centeredness, and contradictions between two parties seeking to maximize their own profits. All these deficiencies can be easily executed with AI and ML.
- *Increased operational productivity and process efficiency:* Implementing AI in the organization improves operational efficiency through cost and time savings brought by automation, and through increased revenues, thanks to better products and services (McKinsey & Company, 2020). Recently, Brynjolfsson et al. (2021) demonstrated that adopting AI-based predictive analytics leads to up to an average 3% increase in productivity (equivalent to yearly revenue gains of $918,000) when comparing AI adopters vs. non-adopters in the US manufacturing industry. Moreover, the implementation of AI and big data has been associated with enhanced firm performance as they contribute to the improvement of products and services (Brock & von Wangenheim, 2019).
- *More informed decision-making*: AI enables better marketing decision-making regarding pricing, channel management, and product-service design and development (Suoniemi et al., 2020). Furthermore, AI serves as a

facilitator of knowledge management, allowing companies to integrate information about customers, users, and the market, which supports decision-making processes and ultimately leads to improved firm performance. Consequently, the adoption of AI-based digital technologies has the potential to enhance organizational effectiveness by enabling better decision-making, increasing productivity, and optimizing the utilization of human resources.

- *Innovation and diversification*: The impact of AI on firms' innovation activity has been subject to diverse findings. Studies have shown a positive relationship between AI and incremental innovation, as technology enhances a firm's position in existing sectors by improving products and services for consumers (Brock & von Wangenheim, 2019). Moreover, companies that possess dynamic capabilities in technology, data, and skills leverage AI for radical innovation (Mikalef et al., 2019). When comparing different digital technologies, AI, along with big data, robotics, and 3D, exhibits the highest potential for enabling radical innovation. Conversely, common digital technologies such as emails and video conferencing have a negative effect on innovation, as reduced interaction hampers creativity (Usai et al., 2021).

2) AI creates value for business customers and supply chain partners:

- *Efficiency gains in B2B exchanges*: The integration of cloud-based AI solutions throughout the B2B buying process enables the automation and remote execution of buyer-seller interactions and transactions. This results

in reduced transaction costs for all participants in B2B exchanges. Additionally, both purchasing and sales functions benefit from time and effort savings, as AI can be employed to outsource tedious and complex tasks such as text analysis of RFI (request for information) or RFP (request for proposal) documents. Within supply chains, predictive analytics facilitates more accurate forecasting and demand prediction, leading to improved supply chain efficiency through reduced levels of excess inventory, lower product return rates, and minimized delays (Dubey et al., 2021).

- *Customized smart products and services*: AI, in conjunction with other digital technologies, serves as an enabler for hyper personalization by bridging the physical and virtual infrastructure. For instance, manufacturers are increasingly sharing production infrastructure and resources, utilizing remote access to configure, control, and monitor machine operations, resulting in flexible manufacturing. Buyers can remotely access and configure smart products and services according to their specific requirements, while technologies such as VR (Virtual Reality) enable the creation of prototypes. In the context of purchasing and sales, chatbots facilitate personalized and real-time communications during RFI processes and sales transactions, while automated negotiation systems and pricing systems employ machine learning methods to incorporate supplier-specific information (Schulze-Horn et al., 2020).

- *Improved customer relationship management and customer engagement*: By adopting AI systems and ML in customer relationship management, firms can enhance their interactions with potential and existing customers. In customer acquisition, AI integrates diverse data sources, such as user-generated content or Google search data on emerging market trends and new customer opportunities, thereby assisting firms in expanding their prospect base. AI also aids in nurturing relationships with current customers through upselling and cross-selling techniques, increasing order frequency, and extending relationship duration. Predictive analytics enhances the accuracy of customer lifetime value (CLV) calculations, enabling firms to identify and target high-value customers with effective acquisition and retention strategies, thereby optimizing acquisition and retention budgets and minimizing churn among high-value customers (Libai et al., 2020). Lastly, the use of conversational agents and automated personalized communications leads to heightened customer engagement (Chatterjee, Rana, et al., 2021).
- *Enhanced relationships with suppliers*: The adoption of AI can enhance a company's relationship strategy with both potential and existing suppliers and partners. Matching systems equipped with big data capabilities broaden the pool of potential suppliers for buying firms, facilitating the identification of better sourcing opportunities that might otherwise be overlooked. In supplier relationship management systems, AI methods are employed to monitor and evaluate supplier performance and satisfaction, thereby improving the focal firm's supplier orientation and encouraging supplier

development to better cater to the buying firm's needs (Gu et al., 2021). Furthermore, the use of conversational agents has been associated with increased supplier engagement.

3) AI creates value for the societal stakeholders:

- *Reduced environmental impact*: Within industries that have a significant environmental footprint, such as manufacturing, AI and ML capabilities empower producers to pursue industrial sustainability. This entails achieving business objectives while minimizing waste and environmental impact. The concept of a *circular economy*, which emphasizes the smart reuse and recycling of materials in production, distribution, and consumption, is closely associated with this approach, to improve environmental quality (Ren et al., 2019). AI automation and advancements in robotics enhance operational efficiency in logistics and contribute to lowering the overall global warming effect of CO2 emissions.

  From a marketing perspective, Hermann (2022) discusses how AI and data science can be leveraged to promote sustainable consumption. For instance, internet search and social media data can reveal psychometric and behavioral patterns of environmentally conscious consumers, enabling targeted advertisements to nudge them toward ecological products. Recommender systems employed by platforms like Amazon could also be programmed to promote sustainable alternatives and ecological products.

- *New opportunities in the labor market*: Undoubtedly, AI can perform many tasks faster and with fewer errors than human agents and already exhibits

traits of intuitive and empathetic intelligence, allowing human-machine interactions even in service settings. In labor-intensive industries, AI may lead to increased poverty and isolation if low-wage earners are replaced by AI (Leszkiewicz et al., 2022). However, AI also presents new opportunities. Through improved automated predictions, AI reduces the uncertainty faced by organizations, enabling decision-makers to address new scenarios that were previously impossible or too costly. Consequently, AI necessitates new decision-making processes and creates new tasks. Additionally, the widespread adoption of AI has generated a significant demand for skilled staff, which currently poses one of the main challenges for organizations implementing AI (Brock & von Wangenheim, 2019).

- *Improved health and well-being*: AI has tremendous potential to enhance the overall quality of life, health, and well-being, especially inside the company itself. For example, in healthcare organizations, the utilization of AI and big data analytics has been linked to improved quality of care, higher patient satisfaction, and reduced readmission rates, contingent upon the existing capabilities of business data analytics and skilled personnel (Odekerken-Schröder et al., 2020).

1.2.3 Critical areas of potential use of AI in B2B marketing innovation and value co-creation

In a study conducted by Stancombe (2017), more than 50 AI use cases were analyzed, revealing their applicability in a B2B context. To ease selection and understand which to adopt first, the use cases have been spread in a diagram that

confronts the complexity of implementation with the level of benefits that a company can expect.

The research (Figure 1.1) clearly shows that many organizations are jumping straight to some of the most challenging opportunities that AI offers, while a small minority is focusing on the openings that are effortless to implement but have a high benefit upside.

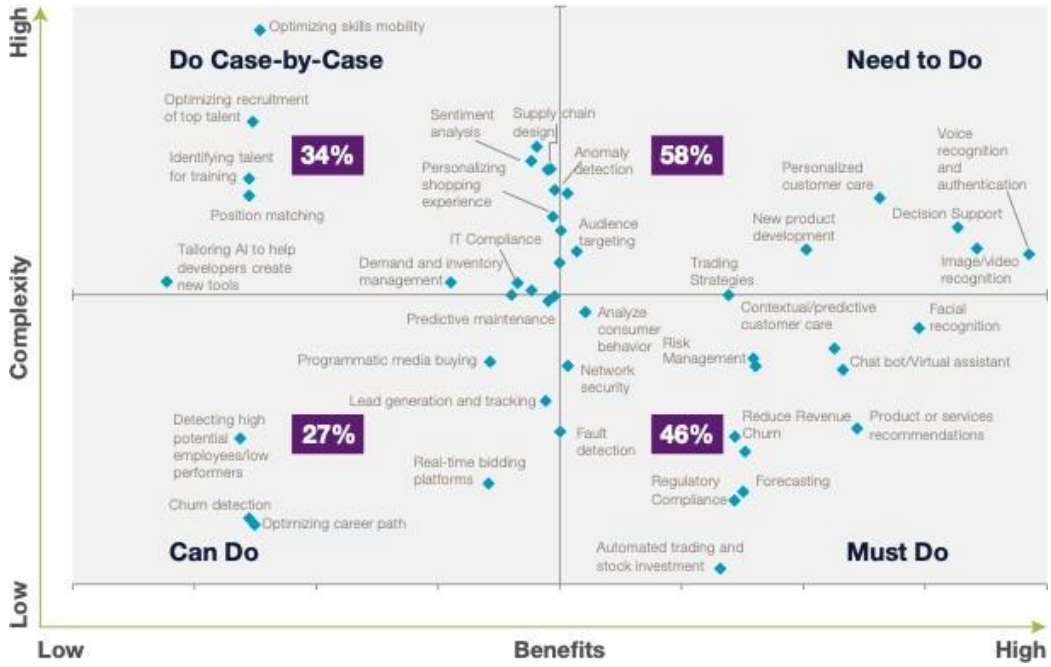

Figure 1.1: Distribution of AI opportunities by benefits and complexity by Stancombe (2017)

As can be realized from this picture, over half of organizations are tackling the hardest and most complex openings, whereases only 46% are applying the most advantageous and simple to introduce.

Among all these use cases, according to Chen et al. (2022), the main outcomes of

AI adoption in the B2B marketing context regard decision support, process automation and the provision of a customized service. They all generate efficiency, accuracy and customer relationship improvement, risk and cost reduction, and better decision making.

As just demonstrated by (Stancombe Christopher Tolido et al., 2017) research, companies need to seek ways to comprehend and define which actions yield them the most significant and primary benefits. To avoid losing time and money around a failed implementation, B2B organizations need to have a clear view of where AI can create the most enduring advantage for them and their following customers. To identify how AI can better impact, the framework of the Five Senses of AI by Stancombe (2017) can be consulted (Figure 1.2).

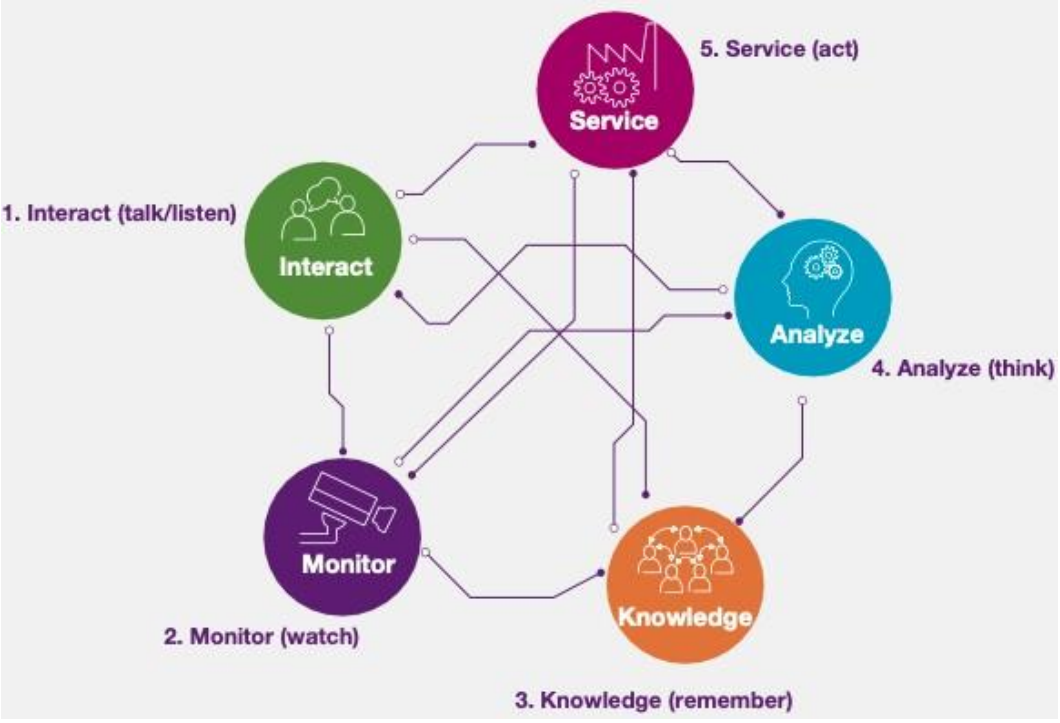

Figure 1.2: The five senses of Artificial Intelligence, by Stancombe (2017)

The collaboration of the five senses of AI (Interact, Monitor, Knowledge, Analize and Service) creates automation solutions that deliver responsive, relevant, and intuitive user experiences. These attributes result from the combination of intelligent automation and smart processes, with each sense of AI corresponding to a human sensory experience. The senses should be studied and can be chosen according to their attributes and consequent features that they permit. For example, with "Interaction" the service refers to chatbot and voicebot, while "Analyze" is associated with Machine Learning integration and pattern recognition.

1.2.4 Barriers to AI adoption in B2B marketing

Trust in AI marketing solutions on the part of B2B marketers is only recently being explored. Hence, a deep understanding of the complications arising from AI adoption from the perspective of B2B marketing practitioners is critical and there is generally a lack of in-depth analysis of such barriers (Keegan, Dennehy, et al., 2022).

The same aspect is highlighted in Keegan, Canhoto, et al (2022), where this AI barriers field is investigated with empirical research. The first challenge underlined relates to the *technical requirements* for AI to perform to its potential: namely, without access to large and high-quality datasets, or the technological infrastructure to process them, firms will not be able to benefit from the AI promise. The second challenge arises from the *suitability* of AI for specific marketing tasks. It is widely acknowledged that AI excels in repetitive tasks rather than intuitive ones. However, many marketing problems necessitate skills that fall into the latter category.

Furthermore, the long-term consequences for firms implementing AI technology pose another challenge: as AI systems typically operate with limited or no human intervention, the precise definition and careful *specification of goals* for AI algorithms become critically important. Yet, in marketing, where objectives may be implicitly understood and challenging to translate into precise quantitative terms, this presents a challenge. Moreover, the lack of supervision by domain experts, the inability to query the resulting algorithms, and the difficulty in comprehending how an AI solution arrived at a particular result generate a paradox. Consequently, outsourcing decision-making to AI may ultimately deplete marketing stakeholders of the knowledge and expertise needed to perform complex tasks. In addition, firms may unknowingly engage in *biased behavior*, potentially causing harm to the firm's reputation.

Additionally, nowadays many potential barriers to AI adoption regard people. The first obstacle refers to the *lack of motivation* (Chen et al., 2022): managers lack awareness of the inefficiency of the existing business processes. Regarding both clients and employees, they may resist using AI and prefer human interaction. This challenge can be seen from a generic perspective and summarized in the general "*resistance to change*" that in Stancombe Christopher Tolido et al. (2017) reports a 57% share among the 993 interviewed companies that were implementing AI. Resistance can come also from the majority of employees that are concerned about the impact of AI on job losses.

Regarding customers, they can also be quite resistant to new methods as they have to learn something new despite what they were used to.

Considering the concerns surrounding AI, Leszkiewicz et al. (2022) highlights that it is crucial to address and overcome the barriers associated with AI implementation in order to harness the progressive increase in the social value of AI. What emerges is that while reporting on the challenges, it is apparent that most of them are being or will be resolved at least.

Firstly, while capital investment remains a significant barrier to the widespread adoption of AI, there is a decline in information technology costs coupled with an overall increase in computing power: this trend is expected to facilitate the diffusion of AI. Secondly, the anticipated tightening of laws and regulations pertaining to AI usage may increase financial costs for firms. However, it is likely to decrease AI-related risks and concerns for users and society at large: this latter effect is expected to prevail, as a majority of companies are already actively engaged in self-regulation to mitigate AI risks. Moreover, voluntary adherence to a code of conduct regarding AI usage offers brand reputation benefits (López Jiménez et al., 2021) and (McKinsey & Company., 2020). Thirdly, over time, AI algorithms are expected to improve and become more efficient due to their learning capacity, thereby enhancing the value derived from AI. Furthermore, the current AI skills lack, marked at 64% share (Stancombe Christopher Tolido et al., 2017) resulting as a significant obstacle to widespread adoption, will gradually diminish as dedicated programs focusing on AI emerge within academic institutions. Lastly, as AI becomes increasingly pervasive across industries and societies, a growing number

of stakeholders will reap its benefits, consequently augmenting the will and the social value of AI.

To summarize all these points, the ability of B2B firms to harness the potential benefits of AI heavily relies on their capacity to desire the AI introduction, convince people about its value and have access to the essential technological and knowledge resources, including data, task-fit models, and algorithm querying capabilities. Developing these digital assets internally may pose challenges for firms, leading them to seek external sources through outsourcing, thus creating a dependency on service suppliers (Quinn, Dibb, Simkin, Canhoto, & Analogbei, 2016). This underscores the importance of studying the entire ecosystem surrounding the implementation of AI solutions.

1.3 How to approach the AI adoption

As Gordon Schembri, Principal Digital Technology of GE Oil & Gas says, "Organizations are now convinced of the benefits that AI can bring. They are now asking themselves where and how they should invest." (Stancombe Christopher Tolido et al., 2017), companies should start investigating how to introduce AI in their businesses. The business community has eagerly anticipated the practical application of Artificial Intelligence for a considerable period, with the technology remaining in a prolonged state of hype. While these advanced and intricate technologies held immense promise, tangible evidence of their effective implementation in a business context remained scarce for an extended period. However, this narrative is now undergoing a transformation: with the exponential growth of data, enhanced computing capabilities, and the solidification of AI

technology foundations, forward-thinking businesses are actively putting AI into practice, yielding impressive outcomes.

Given this only recent concrete development, not many articles dealing with real AI adoption are available today: this paragraph presents what literature has to offer around this topic currently. currently.

1.3.1 AI adoption strategy: the literature version

The following points represent how to begin an AI strategy and roadmap based on the considerations found in Stancombe (2017) coherently supported by other articles' considerations:

1. **Start by identifying your AI leadership:** it is necessary to identify a leader inside the company to spearhead the AI initiative. For Michael Schrage, a research fellow at the MIT Sloan School's Initiative on the Digital Economy, leadership is critical in AI: "What I have observed in companies that do AI well is they have a policy and process around data governance and treating data as an asset. They also have either key problems or business cases that lend themselves to known structures for AI and machine learning algorithms. They view AI as an enabler. They are not just well-managed, they are well led." Part of the challenge for leaders is to set a compelling strategic vision while harnessing the creativity of employees.
2. **Set up a governance structure for AI initiatives to drive greater benefits:** Since the intention to implement AI is a strategic decision, it should start with a top-down approach for what concerns decisions and

communication, while gathering ideas and real-life use cases has to come from a bottom-up approach. To do so, it should be established a clear governance framework with a central team in which initiatives will be implemented in order to gain the most benefits in multiple areas.

3. **Win over employee trust and support by allaying their concerns:** Organizations face various challenges as they seek to harness the potential of AI. One significant cultural issue to address is employee concerns regarding the impact of AI on job security. According to Stancombe (2017) survey, 61% of organizations report that most of their employees express worries about the potential loss of jobs due to AI. Such apprehension can lead to employee anxiety about working alongside machines or AI applications, creating resistance to change, which poses a major obstacle to AI implementation.

   To avoid this pitfall, leaders should prioritize open communication with employees and involve them throughout the AI implementation process. They need to demonstrate how AI will augment employees' work and assure them that training programs and other initiatives will enhance their comfort level with the technology. For example, Michael Natusch, Global Head of AI at Prudential, shared that they are running a training program to equip employees from all business units with Alexa programming skills. The primary objective of this initiative is not solely to develop AI solutions, but to increase colleagues' confidence in working with AI. Building an understanding of the capabilities and limitations of AI is equally important. Recent research on digital culture in organizations has highlighted that

cultural issues present the most significant obstacles to digital transformation. According to Jonas Albertson, Managing Director of Atlas Copco, the greatest challenge lies in change management and people, rather than technology itself. Michael Schrage, a research fellow at the MIT Sloan School's Initiative on the Digital Economy, emphasizes that human factors, organizational culture, and leadership quality play crucial roles beyond the capabilities of the technology itself.

4. **Prepare enterprise data and skills to harness AI's full potential**: The formation of a competent team of AI specialists who possess the ability to conceptualize AI use cases, code, and implement them is crucial. A significant majority of organizations (64%) identify the lack of skills as the most significant challenge in AI implementation. Ashwini Ashokan, CEO and Co-founder of Mad Street Den - a computer vision and Artificial Intelligence startup - expresses the scarcity of talent in the field: "I do not think the world has enough people that know how to build AI. There is an extreme scarcity of talent right now."

Beyond people technology training and cultural development, equally important is the availability of relevant and sufficient data to train and test AI systems. Companies are overwhelmed with data but do not always have the right kind of data that can provide insight to achieve their goals. Only by converting data into relevant information, can organizations achieve a steady information flow to drive them towards behaviors that attain their corporate goals (Latinovic & Chatterjee, 2022).

5. **Insufficient or irrelevant data undermines the accuracy and reliability of AI applications, rendering them unusable:** A Senior Director of Marketing at an open-source deep learning platform emphasizes the necessity of a data science team and data readiness for successful companies: "For a company to be successful, I think I will always go back to having a data science team and having the readiness for data and for data analysis. I believe organizations who only look at their current business model without even paying attention to data usually lag behind." Chris Nicholson, Co-founder and CEO of Skymind - a data analysis and machine intelligence startup - echoes this sentiment, highlighting the importance of gathering relevant data for solving specific problems. As from Stancombe (2017), organizations with the right combination of data and skills derive significantly greater benefits from AI compared to those that have not yet developed these capabilities. Stephen Epstein, VP of Product Marketing at Digital Reasoning - a cognitive computing and AI startup - emphasizes that leaders truly understand the value of AI because they have invested in people who comprehend AI principles and know how to apply AI within their organizations. The differentiating factor lies in leaders' investment in data science, while others have yet to do so. Product Marketing at Digital Reasoning - a cognitive computing and AI startup - emphasizes that leaders truly understand the value of AI because they have invested in people who comprehend AI principles and know how to apply AI within their organizations. The differentiating factor lies in leaders' investment in data science, while others have yet to do so.

6. **Pursue rapid experimentation and scale the successful use cases to the organizational level:** Stancombe's (2017) research highlights that organizations that successfully implement AI at scale are reaping its benefits. However, the selection of the right use cases to scale is crucial. Companies can initiate the process by conducting pilot experiments and launching them in specific use cases using one or more of the following approaches:

   1) Incubating the projects in an innovation lab or AI technology center of excellence: Creating dedicated spaces or teams within the organization focused on innovation and AI development can provide the necessary resources and expertise to nurture and scale promising use cases.

   2) Collaborating with the startup ecosystem: Partnering with startups that specialize in AI technologies can offer access to cutting-edge solutions and expertise, enabling organizations to leverage external resources and accelerate the scaling process.

   3) Collaborating with technology partners to leverage their innovation network: Collaborating with established technology partners can provide access to their extensive innovation networks, which can facilitate knowledge sharing, access to resources, and support in scaling AI initiatives.

In recent years, many organizations have already established big data platforms and operations. It is essential for organizations to consider leveraging these existing systems and processes to expedite AI experimentation. Once the value of a

particular use case has been established, it should be scaled to the organizational level to maximize its potential. A Senior Director of Marketing at an open-source deep learning platform offers insights on scaling pilots, stating that digital transformation is a gradual journey. Organizations typically start by developing microservices that address specific, smaller-scale problems. These microservices then serve as the foundation for building larger-scale services to tackle more significant use cases, thus progressing with AI implementations.

Stancombe (2017) provided another pathway (Figure 1.3) that encompasses the realization and ongoing enhancement of AI implementation. As previously, it begins with the vision realization of the desired outcomes, aided by the utilization of use cases in a phase called *Discovery*. Consequently, a *Devise* step commences, where capabilities are developed and pilot projects are implemented: they will be later scaled in the *Deploy* phase. Governance plays a pivotal role in coordinating all the work, prioritizing AI projects and nurturing an AI/insight-driven culture that leads to continuous transformation and evolvement in the last stage, *Sustain*.

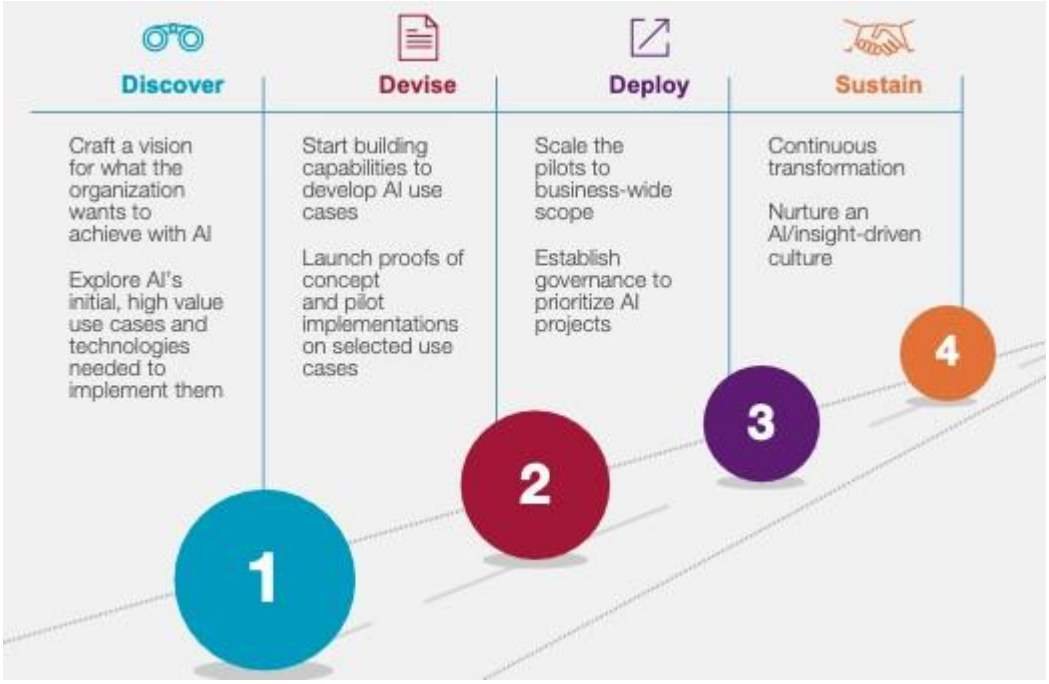

Figure 1.3: Roadmap for making systemic progress on AI implementation.

To sum up all these paragraph points, the main idea is that AI adoption is a strategy topic: it should start with a merged top-down approach for what regards initiative and decisions and a bottom-up approach for the development of concrete needs, it should have a dedicated team that assures and facilitates the work realization, and simultaneously culture should be integrated within all company in order to gain employee trust and support. The importance of a dedicated team emerges also in the implementation phases, where it not only prioritizes work but also assures continuous transformation and evolvement toward improvement. By leveraging AI effectively, B2B companies can position themselves ahead of the competition and achieve significant outcomes.

Chapter 2

Gaps and research questions

Although there has been significant research on the adoption of AI applications in business-to-consumer (B2C) marketing, as apprehended from Chapter 1 there remains a noticeable dearth of rigorous research focusing on the process to adopt it in the realm of B2B marketing (Keegan, Dennehy, et al., 2022). This chapter aims to underline this evidence and consequently explain the motivations that underpin the writing of this thesis. To become more accurate, the second paragraph lists the specific queries this thesis aspires to fulfil.

2.1 Gaps and research motivation

The incorporation of artificial intelligence in B2B marketing has garnered growing interest among marketing scholars (Paschen et al., 2020). Organizations are actively leveraging AI to identify innovative strategic opportunities within vast customer data sets that may have been overlooked by human analysts (Behera et al., 2021), while also potentially reducing operating costs (Davenport et al., 2020). Although there has been significant research on the adoption of AI applications in business-to-consumer (B2C) marketing (Liu, 2020), as apprehended from Chapter 1 there remains a noticeable dearth of rigorous research focusing on the process to adopt AI in the realm of B2B marketing (Keegan, Dennehy, et al., 2022). This evident

disparity in attention underscores the need for a comprehensive exploration of AI's influence on B2B marketing, shedding light on its distinct barriers and benefits for companies operating within this domain.

Furthermore, there is a lack of evidence regarding the specific steps to pursue when implementing AI in a company. While some general pathways have been outlined in the literature as seen in Chapter 1, they are not clearly sustained with examples and fail to provide a comprehensive list of points to address during the AI adoption process. The realization of AI's transformative potential necessitates more than theoretical postulations. To introduce such a delicate theme in a business, it is crucial to clearly describe and define people's roles, tasks and motivations, and all the necessary steps and considerations involved in the process.

2.2 Research aim and questions

Since this thesis aims to provide a comprehensive and precise guideline to help B2B companies in walking towards the AI adoption, several yet unanswered questions have been gathered in this paragraph. Some of these questions arise from the gaps identified in the existing literature, while others have been highlighted through practical experimentation.

The specific queries this thesis wants to fulfil are:

1. Which are the benefits of AI adoption in a B2B context?
2. What barriers can a company encounter during an AI adoption in B2B marketing?

3. Are there any previous steps that need to be accomplished and verified before concretely introducing AI systems and solutions in a B2B marketing context?
4. Which are the necessary stages to efficiently introduce AI in a B2B marketing context?
5. Does the AI introduction have a strategic impact in a B2B marketing context?

Although the first two questions find their answer in the available literature - and are reported in Chapter 1 - all the others will find their solution and explanation in the following Chapters. As already highlighted, literature lacks in many aspects of AI implementation in B2B marketing context, so Chapter 3 aims to fulfil all the associated lacks thanks to an empirical experience.

Chapter 3

From Literature to Practice: Crafting a Strategic AI Adoption Path for B2B Context

The objective of this chapter is to introduce a path, a comprehensive guideline, dedicated to companies seeking to adopt AI. Before presenting the guideline, we elucidate our research approach, unveiling the method undertaken to address the existing void in establishing a clear trajectory for initiating AI adoption in the B2B landscape. Since this process emerges from a fusion of concrete experience and OpenSymbol's model, the second paragraph outlines the steps employed by OpenSymbol to execute with success the analysis and implementation of a CRM system for a customer.

3.1 Research approach

As just seen from the previous chapters, currently there is still no clear path to follow to begin an AI adoption process in a B2B context. To face this new challenge, an empirical research journey was undertaken after a thorough examination of the literature (Flynn et al., 1990).

Consequently, a stage period was started at OpenSymbol, the first consulting company in Italy specialized in Customer Relationship Management and seeking AI projects, where the method used by this enterprise to approach CRM problems

was studied and concretely applied. In the end, all the concrete experience gained at OpenSymbol was combined with the literature information in order to generate a standard path that companies can follow to approach an AI adoption process.
The devised path, named the "5D-4I process," was subsequently employed and refined in three distinct case studies. The methodology employed in these case studies is elaborated upon in the forthcoming chapter. Throughout our research, we diligently implement and thoroughly evaluate the first five Ds, ultimately arriving at the decision phase. As for the 4I stages, we do not conduct practical testing due to time constraints.

3.2 OpenSymbol s.r.l

3.2.1 OpenSymbol presentation

OpenSymbol s.r.l. is the first consulting company in Italy specialized in Customer Relationship Management. For more than 20 years, the company has owned the technologies and the CRM systems emerging as well-established in the market. To endure staying on the market, OpenSymbol has evolved to become part of the Impresoft Group, obtaining in this way new partners to become even more competitive.
OpenSymbol's mission is to help businesses tackle what they call the "*Customer Revolution*". As described by their workers, Customer Revolution "is what happened to taxi drivers when their customers started preferring Uber. It is what manufacturing companies experience when some customers choose competitors not only for the product but also for superior customer management. It is what banks

are facing with the Fintech phenomenon. It is what could happen to a paper mill, an appliance factory, or a car dealership. Customers have taken control, and this could be good news." As they explain, the only method to anticipate customers' necessities and desires and transform the customer revolution into a business strength is by adopting a CRM/Customer Experience strategy.

3.2.2 The OpenSymbol model

With the greatest experience, OpenSymbol consultants have developed a well-established six-phase path to approach customers' CRM problems, structured as follows (Figure 3.1):

Figure 3.1: OpenSymbol six-phase path to approach customers' CRM problems

0) **Pre-Analysis**: Includes all the activities to define the project dimension, estimation and planning to prepare a closed offer. The current phase is designated as Phase 0, rather than Phase 1, to emphasize the significance of

this activity in determining the feasibility of the project and potentially preventing its prior application and development of tangible elements.

1) **Prototype**: Defines the activities to implement a prototype with basic functionalities (IT setup, modules configuration, sample data import). In this stage integrations and automation are not implemented.
2) **Tuning**: All the necessary steps to sharpen the prototype along with the logic are shared with the customer. In this stage, consultants start thinking about the possible integrations.
3) **Integration**: All the activities aimed to integrate the CRM with the other systems involved. At the end of this stage, the processes must be well-defined and implemented, and the use cases of the User Acceptance Test must be prepared.
4) **Training**: This phase is dedicated to transferring the process skills to the end users. This is a stage cross: it cannot be defined only at the end of the project.
5) **Go-live**: The final moment: it involves all the activities to bring the customizations in the live system and to go live with the project. After this step, consultants end their work and pass on the torch to the back office which is always available to help customers or acquire new necessities to eventually pass to consultants.

3.3 Navigating AI Integration in B2B: The 5D-4I Process

By confounding the literature findings with the OpenSymbol CRM project methodology, a convergent comprehensive guideline for the analysis and eventual

implementation of AI in a B2B context is achieved. This outcome results in the development of a practical and tangible roadmap for companies seeking to adopt AI into their businesses.

The pathway, called the "5D-4I process", comprises a 5+4 step journey. The initial five stages (Figure 3.2a) focus on examining the feasibility of introducing AI, acting as a barrier to the subsequent four steps (Figure 3.2b) that encompass the concrete realization of AI implementation.

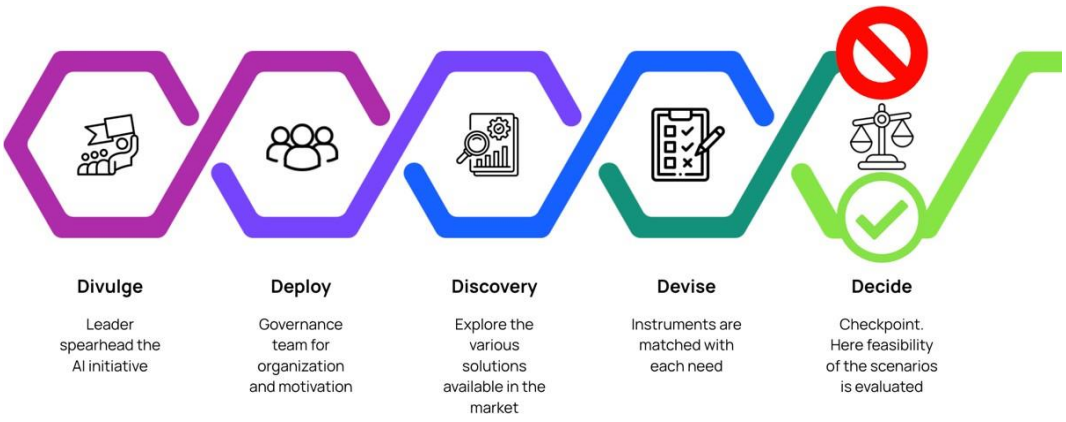

Figure 3.2a: 5D-4I guideline to AI adoption: 5D

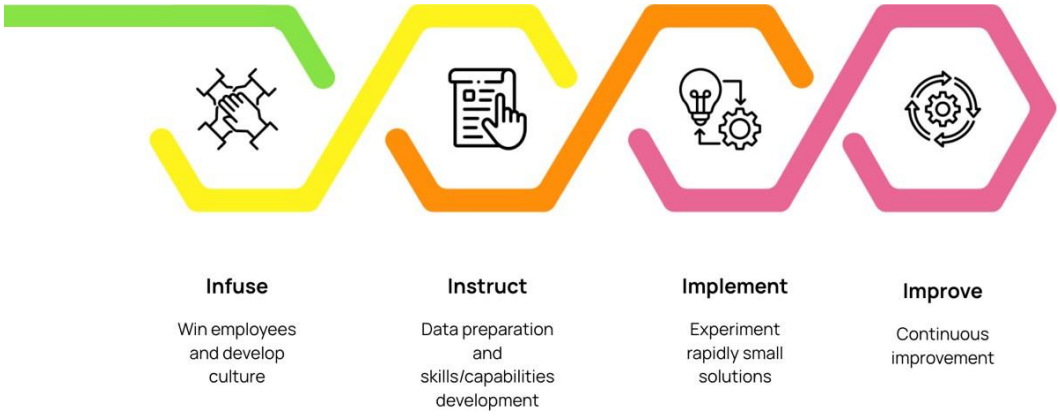

Figure 3.2b: 5D-4I guideline to AI adoption: 4I

During the feasibility evaluation, the 5D steps necessitate the presence of a leader and a central team. Together, they must ensure the appropriateness of AI adoption and devise an effective implementation strategy. Additionally, the team is responsible for identifying and evaluating suitable software and technologies before proceeding to the final four steps. The 4Is in fact conduct the concrete development of the AI implementation. These concrete steps involve spreading the AI culture among employees and preparing the necessary data before engaging in rapid and small-scale experimentation, followed by a continuous improvement process. Each step is elaborated in thorough detail below.

1. Divulge:

   As mentioned in the literature, the only way that an AI project will be surely explored and implemented is through the presence of a *leader* with AI desire, will and intention, who spearheads the AI initiative and views AI adoption as an enabler and a beneficial implementation. As with all digital transformation processes and in every new introduction project, the impulse must start from the top.

2. Deploy:

As learned from the literature in Chapter 1, AI implementation belongs to business strategy, so while AI declaration comes with a leader, to develop all the ideas and the vision's realization of the desired outcomes, it is necessary to adopt a *merged top-down and bottom-up approach* and establish a clear governance framework with a *central team*. It is essential to engage a dedicated team responsible for studying the project, making decisions, and handling communication. This team should gather ideas and real-life use cases using a bottom-up approach. The central team plays a pivotal role in coordinating all the work, prioritizing AI projects and nurturing an AI insight-driven culture that leads to continuous transformation and evolvement.

As mentioned above in the literature, the fundamental step to implementing AI is to define the motivation, understand the needs, goals, and objectives, and define where to apply the solutions. As it will be apprehended from the case studies, motivation can come from the desire to adopt AI at all costs simply because it is a "fad", but it must not be the only reason. Instead, the will to introduce AI should stem from the acknowledgment that the AI world can ease the work process and consequently develop major value-added activities, ending in better user and customer experience, which is what nowadays companies must constantly aim for if they want to be

competitive and lead or even just survive in the market. In fact, without all these answers, beginning an AI project is pointless: this step cannot be skipped since it owes the decisive power of blocking all the following ones.

Once *motivations and goals* have been established, it becomes necessary to identify any challenges or *issues* within the working steps. Using a bottom-up approach, the central team should create a list of these *necessities*. In the following 5D-4I phases, the team will assess whether each problem can be addressed through an AI solution and possibly determine the most suitable approach for resolution.

3. Discovery:

After being aligned with all the goals and objectives, a discovery phase can start. During this stage, the central team conducts a comprehensive *exploration* of various AI solutions available in the market. The team gathers information from diverse sources, including the web, real-world use cases, and potential personal experiences with AI tools. The focus is on creating a comprehensive list of AI instruments, each accompanied by essential details for evaluation:

- Brief description (explaining what each instrument does)
- Implementation procedure (details on how to integrate the AI tool into existing systems)
- Advantages (benefits and positive aspects of using the AI tool)

- Negative sides (drawbacks or potential challenges associated with its implementation)
- Eventual costs (financial considerations and expenses related to adoption)
- Implementation time (the estimated time required for successful integration)
- Possible privacy-associated issues (consideration of any privacy concerns or data protection implications)

This comprehensive categorization allows the central team to make informed decisions regarding the most suitable AI tools for the company's specific needs and requirements.

4. Devise:

   In this phase, all the previously found *instruments are evaluated* based on their possible ad hoc application in each in-issue company necessity. Each exigency is *matched* with an instrument and one or even more solution scenarios are created.

Moreover, these solutions are aligned with the goals established in the Deploy phase, ensuring they are in line with the overall strategic objectives of the company. This evaluation process aids in the careful selection of the most suitable AI tools that align with the company's specific necessities and strategic vision.

5. Decide:

This is a Checkpoint.

As learned from Phase 0 of the OpenSymbol method and exactly like the Divulge and Deploy phases, this step is certainly delicate and becomes central: it has the power to block (and eventually restart) all the process. Here, the *feasibility* is evaluated for each scenario established in the Devise phase. This means taking time to understand the exact needs of the business, the efficacy of existing processes, the extent of current technology, and the capabilities of the workforce before proceeding with any implementation.

If feasibility is confirmed for a particular scenario, then concrete implementation and realization can begin; else the process **stops**.

During this phase, if there are multiple feasible implementations, a timeline and a *priority list* for each use case are established. Additionally, before moving forward, the *customer-centric perspective* is adopted. Each scenario is evaluated from a CRM perspective, ensuring that customer needs and experiences are central to the decision-making process.

This phase is critical in determining the viability of AI implementation in the B2B marketing context, as it provides a careful analysis of each scenario's feasibility and alignment with the overall objectives and customer focus.

6. Infuse:

To successfully integrate AI into the organizational culture, it is vital to engage employees and develop a positive AI-oriented culture.

Organizations encounter various challenges when it comes to harnessing the potential of AI. As discussed in Chapter 1, a notable cultural challenge is addressing employees' concerns regarding job security beside AI implementation. Such concerns can lead to employees' anxiety regarding the incorporation of AI applications into their marketing processes, resulting in resistance to change, and acting as a significant barrier to AI implementation. To mitigate this challenge, the central group created in the Deploy stage must prioritize open communication with employees and involve them throughout the AI implementation process. Demonstrating how Artificial Intelligence can augment their marketing efforts and providing reassurance through training programs and other initiatives (such as cross-functional collaboration, knowledge sharing sessions, or performance incentives) are essential in bolstering their confidence and familiarity with AI technology.

7. Instruct:

Data preparation and skills/capabilities development.

As previously discussed, it is fundamental to coherently inform and train employees in both AI culture and technologies.

Simultaneously, meticulous data preparation is necessary. For example, for what concerns Machine Learning, data needs to be gathered if not already available, and then thoroughly cleaned. The availability of relevant and sufficient data for training and testing AI systems is crucial: insufficient or

irrelevant data undermines the accuracy and reliability of AI applications, making them ineffective for marketing purposes. Therefore, a robust and well-prepared dataset is a key foundation for successful AI implementation in B2B marketing, ensuring the AI systems perform optimally and yield valuable insights.

8. Implement:

Experiment rapidly small solutions to later apply them to the organizational level to maximize their potential.

As highlighted from the literature, organizations can initiate the realization process by conducting pilot experiments and launching them in specific use cases: starting a digital transformation is a gradual journey. Organizations should start by developing microservices that address specific, smaller-scale problems. These microservices then serve as the foundation for building larger-scale services to tackle more significant use cases, thus progressing with AI implementations.

As in all innovation processes that seek a way to navigate the increasingly complex and ever-faster world, the ruling formula should be: "*Think big, start small and scale fast"* (Carroll, 2020). The central team formed in the "Deploy" phase should be composed of those who "think big" and consider the full range of possible futures: they must make sure to understand the emerging context, rather than assume that their current assumptions are right and end up exploring catastrophic scenarios. After this step, the team should "start small": rather than jumping on the fashion solutions for one

potentially big product, the team should break the idea down into smaller pieces for testing. Consequently, decisions should not be taken solely on intuition or financial projections based on wishful thinking, but they should be deferred until the team reaches real data. In the end, team members should “learn fast” and “scale fast” by taking a scientific approach to innovation. They should conduct extensive, inexpensive prototyping before they get to the pilot phase, in order to gather comprehensive information and quickly analyze both what’s working and what isn’t and later scale the solution to an organizational level.

9. Improve:

Downstream, as with all lean projects, it is fundamental to sustain *continuous improvement*. In this specific context, its benefits are increasing efficiency and productivity by constantly identifying areas where the processes can be improved and creating a more streamlined workflow that cuts down on wasted time and resources.

In detail, by focusing on both people and relationships, continuous improvement initiatives enhance employee engagement and strengthen working relationships, leading to a more committed and dedicated workforce. This makes employees more engaged and invested in the success of the company.

From a concrete perspective, continuous improvement benefits by reducing cycle time through the implementation of swift and efficient small-scale improvements.

Moreover, continuous improvement fosters a culture of innovation and propels companies to stay ahead of the competition by encouraging the organization to constantly explore new ideas and approaches to improve processes. Additionally, by making small changes, new ideas can be tested out quickly and cheaply to see if they're worth pursuing.

Furthermore, continuous improvement instills agility and adaptability within the company. This adaptive capacity has become vital since nowadays it is critical to success.

It is thus central to constantly monitor the newly introduced AI implementations and keep updated with what emerges from the outside, especially in a constantly changing and developing context such as this of AI.

The outlined process involves a sequence of interrelated stages, each characterized by a systematic approach backed by insights from literature and practical experience. It commences with the *Divulge* phase, where the impulsion for AI integration is set in motion by top management, driven by a leader's desire and recognition of AI's potential benefits. The AI declaration triggers a blended top-down and bottom-up strategy, necessitating a well-defined governance framework facilitated by a central team, constituting the *Deploy* phase.

Upon goal alignment by the central team, the *Discovery* phase ensues, cataloging potential AI solutions which are subsequently assessed and tailored to the organization's specific needs in the *Devise* phase. The *Decide* stage follows as a pivotal juncture, involving feasibility assessments and priority delineation, potentially concluding the evaluation facet of the 5D-4I process and transitioning to subsequent 4I stages that focus on tangible implementation.

Once feasibility is established, the tangible implementation process is initiated. The success of AI assimilation within the organizational fabric hinges on cultivating a constructive AI-oriented culture by engaging and informing employees. This *Infuse* phase encompasses comprehensive employee involvement, training on AI principles and technologies. Simultaneously, meticulous data preparation characterizes the *Instruct* phase, acknowledging the data-centric environment.

With both human resources and data primed, a phased implementation journey is embarked upon. The *Implement* phase entails conducting pilot experiments and launching them in specific use cases, mirroring the "Think big, start small, and scale first" approach. Conclusively, alignment with this principle underscores the importance of the *Improve* step, emphasizing the need for sustained and iterative enhancement, aligning with the ethos of lean project methodologies.

Chapter 4

Case studies

The aim of this Chapter is to provide a series of case studies gained through OpenSymbol experience to showcase the applicability and validity of the 5D-4I method. The first paragraph describes the general work methodology that has been used to approach every use study, while the following one presents the three case studies where the 5D-4I has been applied. Each use case presentation includes a concise introduction to the company under review, followed by an overview of the work that has been developed along with relevant interview responses. The last paragraph delves into the discussion of the three case studies, constantly comparing and inspecting them both amongst themselves and in relation to established theory.

4.1 Work methodology

4.1.1 Process steps

As evidenced in this paragraph, OpenSymbol applied the 5D-4I process; however, it was not strictly adhered to as described in the previous Chapter, since the guideline assumes that all steps are internally adopted by the same company. In this context, clients engaged OpenSymbol to execute the steps, resulting in some stages being carried out concurrently, while others were automatically completed. This illustrates the versatility and adaptability of the 5D-4I approach to suit each

company's specific case and circumstances. Consequently, the approach OpenSymbol adopted with the clients results as follows (see Figure 4.1):

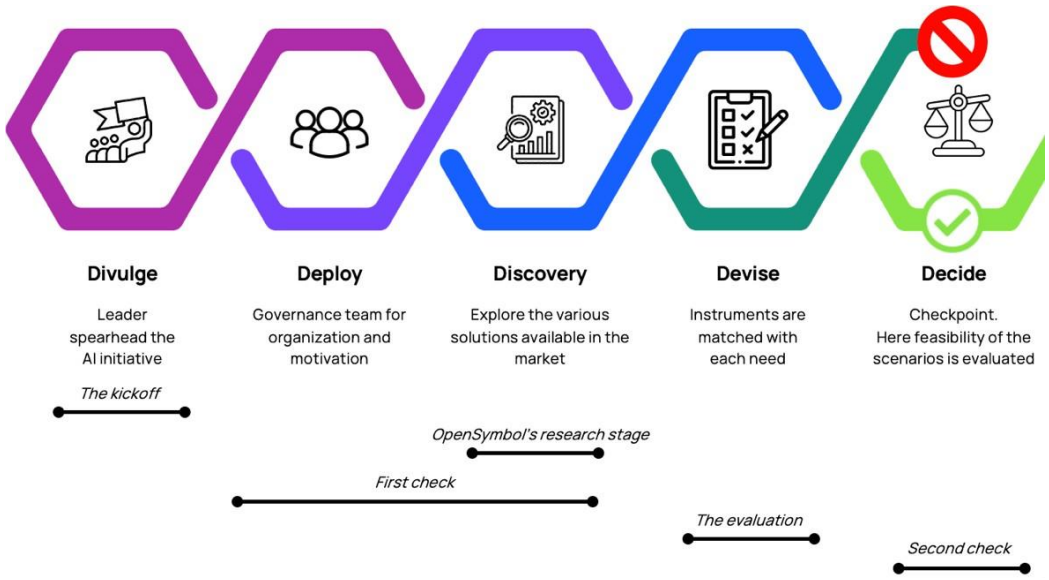

Figure 4.1: Process steps of the work methodology – 5D comparison

The kick-off

The case studies were initiated in response to specific requests from OpenSymbol clients seeking guidance on introducing AI into their businesses: they took the initiative to request independently a meeting to discuss the possibility of integrating AI into their marketing processes.

The first D, the Divulge stage, initiates in this step with the client's proactive request for the meeting. This action demonstrates the top management's willingness to adopt AI. As previously highlighted in the earlier chapter, this step is of paramount importance and underscores a fundamental principle: successful exploration and implementation of an AI project hinge upon the presence of a dedicated leader with a strong determination and clear intention to embrace AI. The introduction of AI in

each client's company begins as a direct result of the leader and top management's clear desire to adopt AI, leaving no doubt about their intentions.

OpenSymbol's research stage

We have decided to confront this newly AI request with the same initial approach for all the clients. Following the 5D steps, as in the Discovery phase, we investigate the benefits of AI and ML adoption in the B2B context, and later we focus on studying the practical realities surrounding this technology. As a provider of CRM solutions, OpenSymbol's primary focus revolves around exploring the specific implementation of AI and ML within CRM systems. Our research is centered on exploring the available AI and ML tools in the market and observing how CRM companies are successfully applying them. This exploratory phase allows us to gain valuable insights into the current state of AI and ML adoption in the B2B sector and understand how businesses are leveraging these technologies, particularly in the context of CRM. The following points present what emerges from this study. Each reality is listed with the name of its technology/technologies and the description of its main functions:

SugarCRM

SugarPredict:

- Compares internal CRM data with external data to generate predictions that otherwise wouldn't be possible just with internal data.
- Used in the sales process.

- Generates a current and planned forecast by identifying customers who can be lost and improve customer engagement.

Kinamu:

- Uses ChatGPT to work on texts. An example of its usage could be the email reformulation.

Monday

AI Assistant:

It includes a collection of innovative apps built in-house on the infrastructure of Monday's AI assistant. It will be able to:

- Generate activity.
- Compose and reformulate emails.
- Summarize complex tasks.
- Building formulas.

Dynamics 365

Copilot:

- Copilot in Microsoft **Dynamics 365 Sales and Viva Sales** helps sellers dramatically reduce the time they spend on clerical tasks. AI helps write email responses to customers and can even create an email summary of a Teams meeting in Outlook. The meeting summary pulls in details from the seller's CRM such as product and pricing information, as well as insights from the recorded Teams call. With

sellers spending as much as 66% of their day checking and responding to emails, this presents a significant business upside to give the seller more time with their customers.

- Copilot in **Dynamics 365 Customer Service** empowers agents to deliver exceptional customer care. Dynamics 365 Copilot drafts contextual answers to queries in both chat and email, in addition to providing an interactive chat experience over knowledge bases and case history so this AI-powered expertise is always available to answer questions. Besides, Copilot streamlines the creation of virtual agents for customer service by incorporating conversation boosters within Power Virtual Agents. This utilizes Azure OpenAI Service and Bing, tapping into selected company websites and internal knowledge bases to swiftly furnish responses.
- Copilot in **Dynamics 365 Customer Insights** and **Dynamics 365 Marketing** empowers marketers to simplify their workflow in data exploration, audience segmentation and content creation.
- With Copilot in **Dynamics 365 Customer Insights**, marketers can curate highly personalized and targeted customer segments by having a dialogue with their customer data platform using natural language. Marketers can receive suggestions about additional segments that may not have been previously considered. This new capability can handle complex calculations and match customers that fit a select profile.

- Using Copilot in **Dynamics 365 Marketing**, marketers can describe their customer segment in their own words to create a target segment with the query assist feature. Marketers can also use Dynamics 365 Copilot to effortlessly get inspiration for fresh email campaign content based on a simple request. Copilot makes suggestions based on key topics entered by the marketer, the organization's existing marketing emails, as well as from a range of internet sources to increase the relevance of generated ideas.
- Copilot in **Dynamics 365 Business Central** streamlines the creation of product listings for online commerce. Product attributes such as color, material and size can be used to create compelling product descriptions for online storefronts in seconds. The descriptions can be further tailored by choosing tone of voice, format and length. Business Central customers using Shopify can seamlessly publish the products with descriptions to their Shopify store in just a few clicks.
- In the Microsoft Supply Chain Center, Copilot serves Microsoft Dynamics 365 Supply Chain Management users. It identifies external factors like weather, financials, and geography that could affect vital supply chain operations. Predictive insights highlight affected orders spanning materials, inventory, carriers, and distribution networks. Supply chain planners can then automatically draft an email generated by Dynamics 365 Copilot to alert impacted partners and mitigate potential disruptions before they happen.

Zoho

Zia:

- Conversational AI assistant parallel to the voice assistant in smartphones but dedicated to the CRM.

HubSpot

Chat Spot:

- Combines GPT-4, HubSpot CRM, DALLE·2 and Google Docs.
- Used for sales, reporting e marketing.

Salesforce

Einstein:

- Gives previsions and recommendations based on the business in question and on client's data.

Einstein GPT:

- Returns content created by AI through interactions with the sales, marketing, commercial and IT area.
- Can be integrated into many areas of the Salesforce platform, including sales, service, marketing, commerce, and Tableau (analytics).
- Create a specific landing page for an event or campaign, including texts, pages and images, all adapted to the structure of the web.

The research reveals that all the CRM companies examined have already developed their own AI software. Consequently, this provides valuable insights into the diverse AI uses that they incorporate into their systems, such as email response automation, sales forecast and more, as shown in Table 4.1. However, even though we gain valuable insights into AI implementations of CRM companies, we do not yield specific AI software recommendations customized for companies' individual needs.

Table 4.1: CRM Companies' Diverse AI Utilization in System Integration

	Dynamics	Monday	Zoho	HubSpot	Salesforce
Call summary	x				
Creative writing	x			x	x
Interactive chat	x		x		
Email answer	x	x			x
Email summary	x				x
Product suggestion				x	x
Sales forecast				x	x

Given the missing AI-specific instruments suggestions, a further market analysis is conducted to identify available AI solutions that could be implemented. This

involves considering a range of options, from workflow automation to generative AI software, listed below.

Workflow Automation:

- **Hubspot**: designed for sales. It is a single platform.
- **Nintex**: robust software that pairs a user-friendly workflow design tool with powerful integrations that will connect every single one of your apps.
- **ClickUp**: for freelancers to remote workers and business owners.
- **Kissflow**: all-in-one workflow automation software that lets your business create workflows that automate tasks in your human resources, sales, finance, administration, marketing, and purchase departments.
- **Integrify**: recommended for administration departments.
- **Zapier**: uses a wide variety of tools that are not talking with each other, so Zapier is able to link them together and make multiple actions at once.
- **SureTriggers**: manages business processes effectively and simply.
- **Flokzu**: designed for individual teams.

Generative AI Applications:

- **GPT-4**: accepts texts and images, while providing text as an output.
- **ChatGPT**: AI language model designed to process and generate human-like texts based on the input provided.
- **AlphaCode**: provides coding solutions.

- **GitHub Copilot**: provides coding solutions.
- **Bard**: Google's response to ChatGPT.
- **Cohere Genrate**: copies content generation with a marketing and sales focus. Compatible with public, private, and hybrid cloud environments.
- **Claude**: AI chatbot similar to ChatGPT, but it was specifically designed to be more focused on safety and a customizable, conversational tone.
- **Synthesia**: video creation platform.
- **DALL-E 2**: generate a new image or add an existing image and prompt to edit the image in a certain way.

The evaluation process employed to assess the viability of each option is rigorous and systematic. Unsuitable instruments are eliminated, and all others demonstrating potential and relevance are retained, ensuring a curated selection of viable AI possibilities that can be tailored to suit companies' unique requirements and goals.

First check

With the completion of the "research stage", meetings with the client are organized with the primary objective of providing clarity on the AI landscape and outlining its capabilities and offerings in the context of CRM. Additionally, the meetings aimed to identify the company's overall requirements related to AI adoption.

This first check, along with the initial research, encompasses two stages of the 5D-4I approach, Deploy and Discovery. By the given definition, the Deploy phase envisages assembling a collaborative team: this action is developed during the first

check. In this specific context, the team comprises both OpenSymbol consultants and the clients' technicians.

As already established, the Discovery phase is explored during the "OpenSymbol's research stage", but, unlike the first two D, this phase can be considered more transversal and iterative: it begins with the initial research, continues during the first check, and, as it will be explained in detail in every use case, it proceeds afterward.

The evaluation

After the first check during which all the company's requirements are collected and gathered, an evaluation matching process is initiated - the correspondent to the Devise phase. All the emerging company needs are thoroughly studied in terms of their distinct objectives, existing marketing strategies, customer data analytics, and resource allocation. Then, whenever possible, these requirements are matched with a suitable AI solution. Various AI solutions are explored and considered based on their potential to address the identified company needs. Then, possible scenarios are generated based on the integration of different AI solutions into the existing marketing strategies. Each scenario outlines how AI could enhance specific aspects of the marketing processes. Potential risks and challenges associated with each scenario are assessed and the potential costs and benefits of each scenario are carefully weighed.

Second check

Ultimately, during a second check, the obtained scenarios are presented and the final adjustments are made. Input and feedback from relevant stakeholders, such as marketing teams, IT departments, and leadership, are incorporated into scenario development to ensure a holistic perspective. Finally, the Decide phase is conducted: the identified solution is evaluated, and a final decision on feasibility is made to determine whether to proceed with the concrete implementation.

4.1.2 Interviews protocol

During the first check, some specific questions are submitted to companies to define the general level of knowledge and expertise about AI, their motivation, readiness, and perceptions. The interviews primarily consist of open-ended questions, aligning with the in-depth research approach of this paper and aiming to generate rich data (Myers & Newman, 2007). The structure divides the interview into four parts:

1. Respondents' information and their understanding and previous experiences with AI (Jöhnk et al., 2021).
    - How would you rate your understanding of Artificial Intelligence (AI) on a scale of 1 to 5, with 1 being minimal knowledge and 5 being expert-level understanding?
    - Have you had any previous exposure to AI technologies or concepts in your personal or professional life? If yes, could you please elaborate on those experiences?

2. General perception and receptiveness towards AI (adapted from Shang et al., 2023b):
    - What is the Level of knowledge on AI of your organization?
    - What is the Level of interest on AI of your organization?
    - What is the Current level of AI adoption in your company?

3. AI adoption and motivation (adapted from Chatterjee, Chaudhuri, et al., 2021).
    - Why has your firm decided to adopt an AI eAI-enablednabled CRM system over the traditional legacy system?
    - What are your strategic, tactical and operational priorities to adopt this new system?

4. AI readiness factors, and organizations' efforts toward AI adoption (adapted from Najdawi, 2020 and Jöhnk et al., 2021). Respondents were asked to indicate their perceived level of importance for each of the AI readiness factors shown in Table 4.2, under the TOE (technology, organizational and environmental) pillars, on a Likert scale of 1–5, with 1 being "least important" and 5 being "very important".

Table 4.2: TOE (technology, organizational and environmental) table by Najdawi, 2020

Readiness Dimensions	Main Categories	Sub-Categories
Technology Readiness	Relative advantage	
	Compatibility	Business process*, Business case*
Organizational Readiness	Culture *	Top management support, change Management*, Innovative Culture*
	Organizational Size	
	Resources	Budget*, employees*, data* (availability, protection and quality)
	Organizational Structure*	
Environmental Readiness	Competitive pressure	
	Government regulatory issues	Employees'council, General Data Protection Regulation (GDPR)*
	Industry requirements *	
	Customer readiness *	

[1]

[1] Table 4.2: In the TOE table by Najdawi, 2020, the main categories support the analysis by dividing each dimension into parts to be analyzed. Culture needs to be spread among employees to assure their motivation and alignment and a strong Organizational Structure is necessary to assure a lean AI adoption. Even the environment needs to be ready: from an internal perspective by Industry requirements and a customer-centric standpoint, there is the need for Customer readiness.
Sub-categories guide the in-depth analysis. Regarding technology compatibility, Business Processes have to be investigated taking for example some Business Cases. As already reported, culture is paramount: it has to bring innovation and start from the Top Management. Considering data, all the linked resources need to be ready and immediately available: budget, employees, and data. Moreover, in a data context, GDPR has to be constantly assured and controlled.

4.2 Case studies presentation

4.2.1 Paper mill case

4.2.1.1 Paper mill case presentation

This company is the heart of the production of quality papers designed for various applications including printing, publishing, labels, bookbinding, packaging, and paper conversion. With extensive expertise and deep-rooted knowledge, they craft more than 2500 distinct products, each reflecting their unique style and commitment to excellence. To ensure global accessibility, this company operates an integrated logistics system encompassing offices in Italy, commercial branches across Europe, in Asia, and in South America. This extensive network enables them to cater to the needs of their clients, no matter their location, reaffirming their dedication to providing exceptional service and support.

4.2.1.2 Work data from the paper mill case

This paper mill company has been the first to address AI desire and willingness. During the first call with the IT Digital Manager and the IT Digital Specialist of the company, what emerged was the urge to adopt AI since, as the IT Digital Manager reported (see Table A.1 in Appendix A):

> "*Especially from the top management there is the fever among AI introduction and the fear of missing the train. Top-level executives want to throw them in this new trend even though they do not already own the specifics or the use cases*". He/she continued by explaining that "*this craving*

comes from the aim to twist the business and ultimately the turnover and revenue. By introducing AI, we give a better service to our employees and customers, and this is reflected in a better product, even though the paper itself is quite historical material. So, what we want to do is to use technology to give outside the signal that the company is modern and avant-garde, and consequently to transmit the feeling that the product itself is innovative."

To reach this goal the IT Digital Specialist explains where they would like to apply it (see Table A.1 in Appendix A):

"*AI potentiality is high. We are working on a double side: giving a better service by transmitting this trendy message and meanwhile trying to ease workers' lives*."

Despite the coherent vision presented, the two managers revealed a mediocre level of adoption and interest in AI within the company. Currently, the company is not utilizing any AI technology, and both managers rated the company's adoption of AI on a scale from 1 (very low) to 5 (very high) as 1.5, with the top management's influence raising the average by 0.5 points.

Regarding the company's overall level of interest, the two managers initially had slightly different views, with one assessing it as a 4 and the other as a 2. However, they eventually reached an agreement and settled on a score of 2. The higher score was primarily driven by their personal level of knowledge and curiosity, which led them to become quite informed, especially in the area of visual AI.

4.2.2 Zoppas Industries

4.2.2.1 Zoppas Industries Presentation

Zoppas Industries Heating Element Technologies is a reliable global supplier for the design, manufacture, and sale on the world market of heating elements and systems for domestic and industrial use. With 16 branches around the world, Zoppas Industries is the market leader with a global presence: they count more than 8000 employees in 15 countries around the world.

Thanks to the accumulated experience and constant innovation, they can meet every need: they operate in different industrial sectors and provide commercial and automotive applications, alongside domestic appliances.

Staying at the forefront of industry trends, ZI Heating Element Technologies has embraced sustainable practices, recognizing sustainability as a crucial aspect of corporate social responsibility. As leaders in their field, they aim to set an example by actively managing environmental concerns and fostering an inclusive work environment.

4.2.2.2 Work description at Zoppas Industries

Zoppas Industries contacted OpenSymbol in order to understand the AI possibilities the company could offer them. In fact, as reported in the interview conducted with the Business Application Manager (see Table A.2 in Appendix A),

> "*We are evaluating if to introduce AI*". They were indeed "*moving towards information, looking for services and what's available in the market*",

so they explicitly were in the process of gathering information and seeking AI available services, which indicated an increasing level of interest. The Business Application Manager acknowledged a low level of AI knowledge within the company but rated himself higher at level 3 because he/she "*did some trials with apps that generate insights and not much more*" (see Table A.2 in Appendix A).

As apprehended during the first check, they were firstly willing to introduce AI because "*there is a general movement towards this topic*", so their initial motivation to introduce AI seemed influenced by the general trend surrounding AI in the B2B context. However, the Business Application Manager clarified that their intention was the following (see Table A.2 in Appendix A):

> "*Evaluate if to introduce AI or not according to the information we'll receive and to what benefits our employees can perceive*".

At the end of the first check with OpenSymbol, the client expressed having gained clearer insights into the topic. They requested a follow-up meeting to further discuss and define their specific necessities, which were not yet fully determined at that point.

4.2.3 Azimut Direct S.p.A.

4.2.3.1 Azimut Direct S.p.A. presentation

Azimut Direct S.p.A. is the result of a collaboration between Azimut Group and Epic SIM, the pioneering fintech platform established in 2014 to connect small and medium-sized enterprises (SMEs) with professional investors. As part of Azimut Group's "New Financing" initiative, Azimut Direct offers a unique proposition in Italy, combining the robust capabilities of a leading asset manager with the

specialized expertise of a dynamic fintech company. Their primary objective is to provide financial support to Italian companies through an efficient and streamlined process. They address the ongoing capital requirements of Italian businesses by offering consultancy services and structuring debt and equity instruments. Through their extensive network of qualified investors, they facilitate the raising of capital for companies seeking long-term financial solutions. With a focus on creating a short and efficient supply chain, Azimut Direct is committed to enabling Italian companies to access the financial resources they need for sustainable growth and success.

4.2.3.2 Work description at Azimut Direct S.p.A.

Azimut Direct S.p.A. has been a long-term client of OpenSymbol. Like the other clients, they independently expressed their interest in holding a meeting to discuss AI and as explained, the primary objective of this meeting was to gain clarity on the AI landscape, particularly in relation to CRM, and to identify the company's overall requirements.

This company’s desire was to introduce AI into its operations. As explained by the Chief Technology Officer (CTO), the level of adoption at that time was near 1 with only a few office employees using Chat-GPT. Consequently, they were not able to define a priority level regarding strategy or tactic and were uncertain about which AI applications to adopt first. However, as he/she assessed (see Table A.3 in the Appendix A):

"*We would like to be able to do so (define a priority level regarding strategy or tactic) by studying the different problems and trying to picture a solution with AI support*".

In investigating the grade of experience and familiarity with AI technologies of the CTO, he/she reported, "*I use them commonly: to simplify my activities like graphs creation and to ask for support in the service configuration. I use tools like Midjourney, Chat-GPT e Dall-e*" (see Table A.3 in the Appendix A).

The conversation with the CTO reported targeted, coherent and specific questions, and feasible requests, demonstrating his understanding of AI's potential benefits for the company. Additionally, even though he/she previously assessed a low level of AI adoption, he/she demonstrated to clearly have the right reasons to adopt AI. In fact, unlike being driven by trends, he/she focused on the opportunity and already in what AI is able to provide (see Table A.3 in Appendix A):

"*For us and in our processes, being able to predict a possible business opportunity or prevent a weakness, is fundamental. We believe that through AI we can achieve a very high level of automation and prediction with our data*".

Moreover, while reporting as 4 the level of interest in this topic, he/she added valuable motivations for its introduction (see Table A.3 in Appendix A):

"Since AI solutions can be created with a high degree of automation and complexity while taking already existing data as a source, our company is strongly interested in this argument".

All these CTO's affirmations exemplify the qualities of an informed and visionary leader, motivated by the right reasons to embrace new technologies. The CTO's

clear understanding of AI's potential and its practical applications reinforces the company's commitment to leveraging AI for future success.

The meeting concluded with the scheduling of a next call where it will be reported all the found solutions already matched with the explained problems with the aim to note an implementation priority list. This means that they had already approved the AI implementation process.

4.3 Discussion

4.3.1 The strategic impact of AI introduction in B2B marketing

As can be inferred from the text, all the companies autonomously asked for an AI integration. They clearly have all been moved firstly by the cultural trend that surrounds the business world today: they wanted to stay ahead in the market so, as common, they looked up to implementing new features. Although this motivation should not be the one and only to lead the undertaking of this process as explained in Chapter 1, they all have revealed some following theories and desires linked to this impulse. The IT Digital Manager clearly underlined the strategic impact of AI adoption, which goes beyond merely following a cultural trend. The introduction of AI was driven by the fever among top management to stay ahead in the market and not miss out on the AI revolution. Despite not having a full understanding of the specifics or use cases of AI, they were eager to embrace this new trend. The primary aim of introducing AI was to transform the business and increase turnover and revenue. By leveraging AI-driven solutions, they believed they could provide better services to both employees and customers, leading to an improved overall product offering. They considered that the integration of AI technologies could allow them to project a modern and avant-garde image to the outside world and convey the feeling of innovation associated with their product. However, the paper mill recognized the importance of a well-thought-out approach to AI adoption. Rather than being driven solely by the fever of the trend, the company sought to align AI implementation with its long-term objectives and specific business challenges.

To summarize, while the paper mill company had not yet implemented AI, the organization was well aware of the cultural trend surrounding AI adoption in the business world. The company was contemplating the integration of AI as part of its strategy to stay competitive, provide better services, and create a modern and innovative image, all while ensuring that AI adoption aligns with its overall business goals.

It is essential for organizations to recognize the potential of AI beyond a mere trend and carefully plan and strategize its implementation to achieve meaningful and sustainable outcomes. By focusing on how AI can address specific business challenges, improve operations, and create value for stakeholders, companies can fully harness the power of AI and drive transformative change in their respective industries. Additionally, by knowing specifically the AI notions and functions, they can automatically overcome one of the main barriers of AI, its technological requirements. When a company is not exclusively driven by trends, but led by the specific knowledge of the topic, its decisions and evaluations can be further aware: for example, the need for a large and high-quality dataset or an expensive technological infrastructure will be easily considered a prerequisite and not an element to investigate later in the process of AI introduction.

Alike the paper mill IT Managers, the Azimut CTO affirmed that (see Table A.3 in Appendix A):

> "*We believe that through AI we can achieve a very high level of automation and prediction with our data*".

The statement by the Azimut CTO reflects a similar sentiment observed in many companies, highlighting the potential benefits of AI adoption. The CTO believes that implementing AI can lead to a substantial increase in automation and data prediction capabilities. While the CTO's statement may not delve into a detailed investigation, it aligns with the AI benefits previously listed in Chapter 1. Indeed, with the increase of the automation level, employees gain more available time while human errors decrease, but the process can still be under human control. Having more disposable time, employees earn more occasions to dedicate to their value-added activities, which generates a great increase in their satisfaction level and a better final product. Consequently, if well supported by a cultural spread about AI within the company, what automatically occurs is the resolution of two main barriers and challenges seen in Chapter 1 retained by AI: the employees' lack of motivation and resistance to change.

Although the desire to introduce AI may have initially appeared to be driven by a trend among all the companies, it is evident that, in reality, it concealed a significant strategic impact. In summary, the Azimut CTO's belief in the potential of AI reflects a growing awareness among companies of the transformative power of AI in achieving automation and data prediction. The strategic impact of AI goes beyond following a trend and can lead to increased efficiency, reduced errors, employee satisfaction, and ultimately, a better final product. The realization of these potential benefits has elevated AI adoption from a trend-driven decision to a well-considered strategic move for the company.

While the case studies presented in this research cannot provide definitive and conclusive evidence of AI's strategic consequences, it is noteworthy that all the

companies' leaders acknowledged it as a motivating factor in their pursuit of AI adoption. The desire to stay ahead in the market and be perceived as modern and innovative has driven the initial interest in AI integration. This cultural trend in the business world has undoubtedly influenced their decision-making process. However, upon further investigation, it becomes evident that the impetus to adopt AI goes beyond following a trend. The companies' leaders recognized the potential strategic impact of AI on various aspects of their operations for their long-term success. The pursuit of AI is not merely a reactionary response to a passing fad but a well-considered strategic move with the potential to transform businesses positively.

In conclusion, while the case studies provide valuable insights into how AI adoption is perceived and implemented, they also highlight the complexities and multifaceted nature of the decision-making process. By acknowledging the role of cultural trends and motivations, as well as recognizing the strategic impact of AI adoption, these companies demonstrate a thoughtful and forward-thinking approach to technology integration.

4.3.2 Variations in the AI Adoption Approach

Beyond this analysis, the primary objective of this thesis was to provide a comprehensive guideline for AI adoption. By applying the 5D-4I process to the three case studies, it was evident that all three companies achieved great alignment, collaboration, and shared vision for the future, marking a promising start to the AI

integration journey. Currently, what transpires is the workability of the steps that lead to the feasibility evaluation.

Despite the implemented steps being the same (the 5D), the outcome has been recorded as slightly different. The case studies revealed variations in the speed and clarity of the AI introduction process. The key differentiator lies in the level of preparedness and understanding of AI technologies and features. While Azimut arrived well-prepared with clear ideas of their necessities and a profound comprehension of AI, the Paper Mill and Zoppas had a limited understanding at the first check, requiring further investigation and alignment. During the first check these latter two needed information about AI and their necessities had been investigated at that moment, so there is the necessity for a further alignment about this topic to leave the client some time to align with the employees in a bottom-up approach as the Deploy phase requires. Zoppas in fact reported that "*we are moving towards information, looking for services and what's available in the market*" (see Table A.2 in Appendix A), so they were still in an explorative phase, just investigating the landscape in a general perspective, not specifically directed to their company's necessities. Therefore, instead of leading to the Decide phase to directly start the concrete phase (the first "I" of 4I), these two companies will need to pass through the Devise phase first.

With Azimut instead, during the first check it became evident that the client had a well-informed understanding of the basics of AI, leading to a highly productive conversation. The client was able to envision the company's future goals in a clear manner and provided specific insights into their employees' needs. These articulated requirements aligned well with the potential applications of ML and AI

made the collaboration highly promising. As a result, the implementation process is now scheduled to commence soon, right after a Decide stage meeting. Azimut roadmap clearly exemplifies the “Think big and start small” theory: starting from a divergent phase where ideas regarding necessities have been collected and listed, while simultaneously materials and available applications have been gathered, later each of the latter has been evaluated and matched with the right need resulting in a convergent work.

4.3.3 The adaptability of the 5D-4I Model

A further observation regarding this topic and in a 5D-4I model perspective refers to its remarkable versatility. As evident from the insights presented in Chapter 4.1, the initial generic description of the guideline in Chapter 3 has been seamlessly tailored to suit OpenSymbol's specific situation. Likewise, as demonstrated through the case studies, the 5D-4I process exhibits a high degree of adaptability to circumstances. The clarity of ideas that Azimut has during the first check makes them effectively cover both the Deploy and Discovery phases in that step, enabling them to progress directly to the subsequent D stages. Conversely, the other two companies lack clarity in their necessities, bringing them back to the Deploy and Discovery phase until their specific needs are identified. Hence, we can assert that the steps within the model are entirely adaptable, and in certain instances, the initial stages may loop back as long as there exists alignment between strategy, needs, and knowledge.

4.3.4 Cohesive AI Adoption Journey

The role of Leadership, Employee Engagement, and Governance is crucial to recognize that AI adoption is not a one-size-fits-all approach. Each company's journey toward AI integration is unique and influenced by various factors such as leadership, organizational culture, and employee engagement. The case studies presented in this research exemplify the significance of these factors in shaping the outcomes of AI implementation. As explained in the literature review of the AI adoption in Chapter 1, having a strong leader with the right motivations and vision is crucial for initiating an effective AI introduction process. This emerges clearly in the comparison of the three use cases. Additionally, the successful implementation of AI requires active engagement with employees from a bottom-up perspective. Involving employees in the AI adoption journey not only fosters a sense of ownership and empowerment but also ensures that their valuable insights and expertise are leveraged in the process. Employees' active involvement in understanding AI's potential and its practical applications in their work helps overcome resistance and promotes a culture of openness and adaptability.

By combining strong leadership with employee engagement, organizations can create an environment conducive to a successful AI implementation. The governance structure should support collaboration and communication between leadership and employees, enabling a smooth flow of information, ideas, and feedback. This approach leads to a more inclusive and agile AI adoption process, where the organization can make informed decisions and effectively address challenges that arise during the implementation phase.

In conclusion, the combination of top-down leadership and bottom-up involvement results in a more cohesive and responsive AI adoption journey, setting the stage for a successful and transformative integration of AI technologies into the organization's operations.

Conclusions

The introduction of AI should not be driven solely by trends or fashion; instead, it should be seen as a strategic decision based on the understanding that AI can enhance competitiveness and market presence by providing concrete assistance in specific stages of the business workflow. This thesis set out to provide a comprehensive and precise guideline to assist companies in navigating the AI adoption journey in B2B marketing. In pursuit of this objective, several key research questions were formulated, arising from gaps identified in existing literature and practical experimentation.

The first research question explored the benefits of AI adoption in a B2B context. Through a literature review in Chapter 1, it was established that AI integration can bring numerous advantages in various aspects of B2B activities. It optimizes work quality and engagement by automating tasks, while also rectifying human-driven errors in subjective realms like customer acquisition and sales prediction. The result is heightened operational productivity and efficiency, empowering informed decision-making based on precise data-driven insights. AI's transformative potential in B2B marketing is evident through improved processes, reduced errors, and amplified productivity. In addition, AI facilitates the creation of personalized smart offerings, catering to individual customer requirements. This customization enhances CRM and engagement, cultivating loyalty and sustained profitability. Moreover, AI adoption fosters stronger relationships with suppliers, enabling streamlined and efficient collaborations.

The second research question investigated the barriers that companies may encounter during the AI adoption process. Notably, a significant insight emerged: to ensure a smooth AI introduction, one barrier to not underestimate is the human component. As apprehended from the case studies, managers need to awareness and involve employees as well as clients and suppliers in the AI process to avoid the "lack of motivation" and the "resistance to change".

The third and fourth research questions focused on the necessary stages for efficiently introducing AI in a B2B marketing context. The empirical research presented in Chapter 3 sheds light on the importance of the 5D-4I process, providing a structured framework for AI adoption. The 5D-4I pathway was shown to be an effective tool for assessing organizational readiness and aligning AI integration with strategic objectives. In summary, our results show that, to begin the process of AI introduction, it is crucial to gain a comprehensive theoretical understanding of the AI landscape, including concepts like Machine Learning and the various tools and capabilities it offers. Once the AI landscape is grasped, it becomes possible to assess how AI can genuinely support and augment specific aspects of business operations, considering its unique features and potential benefits. Consequently, a thorough analysis of the job functions and areas where AI can be effectively integrated should be undertaken. In the next step, the organization must evaluate the data available within the business and ascertain whether they align with the identified needs and requirements for AI integration. Only after these steps, the concrete realization can begin.

Moreover, the case studies demonstrated the critical role of top-level executives and cross-functional collaboration in ensuring successful AI implementation in B2B

marketing and shed light on the importance of organizational preparedness and understanding of AI technologies.

Finally, the fifth research question explored the strategic impact of AI adoption in a B2B marketing context. The case studies revealed that AI adoption goes beyond mere trend-following; it can drive significant changes in organizational aspects, including revenue, employee satisfaction, and product innovation. This underscores the transformative potential of AI as a strategic decision for organizations. In conclusion, the recommendation this thesis aims to convey to all the companies seeking to embark on an AI adoption journey is to approach this process at least by thoroughly following the insights justified and explained in the 5D-4I guideline. By doing so, organizations can ensure they commence their AI implementation with a well-informed and strategically sound first step.

Limitations and future research directions

The research identified five preliminary stages crucial for assessing the feasibility of AI adoption (5D), followed by four concrete implementation stages (4I). However, the empirical exploration of the 4I stages was not feasible due to time constraints. As a result, the practical testing of the concrete implementation of AI in a B2B marketing context remains an unexplored area. Future research should prioritize conducting real-world experiments to validate the effectiveness of the 4I stages and provide actionable insights for organizations. Partially, this 4I investigation will be conducted through the continuation of the work with the three case studies previously discussed, in the months that will follow the writing of this thesis.

Moreover, the research focused on a limited number of case studies, which may not fully represent the diverse landscape of B2B organizations. While the selected cases provided valuable insights, a broader sample of companies across various industries and sizes may enhance the generalizability of the findings.

Overall, this thesis offers valuable insights and directions for future research wishing to explore additional aspects of AI adoption in B2B marketing and its impact on specific industries or organizational functions.

Appendix A

Table A.1: Paper Mill interview

Question 1) How would you rate your understanding of Artificial Intelligence (AI) on a scale of 1 to 5, with 1 being minimal knowledge and 5 being expert-level understanding?	
IT Digital Specialist answer	So, I'll start. Since 5 is an Expert level, that will never be in life, I'd tell you a 3. and yes, I've had experiences. I have developed previous skills but only exclusively because I'm curious. I tried all the generative art stuff, then all the drawing because I was quite curious about the thing and all the related tools. On the other hand, a little less curious as regards chatbots, which is something that honestly interests me little on a personal level.
IT Digital Manager answer	I'd give it a two.
Question 2) Have you had any previous exposure to AI technologies or concepts in your personal or professional life? If yes, could you please elaborate on those experiences?	
IT Digital	Yes, I've had experiences. I have developed previous skills but only exclusively because I'm curious. I tried all the generative art stuff, then all the drawing because I was quite curious about the thing and

Specialist answer	all the related tools. On the other hand, a little less curious as regards chatbots, which is something that honestly interests me little on a personal level. And as far as the experience on those generative images is concerned, it's scary stuff. I was really amazed at how fast they came up with this software that can produce some crazy images with really simple queries.
IT Digital Manager answer	I know about the level of the state-of-the-art offer than what is on the market. So, I'd heard that Salesforce was starting to let you listen to the calls you made on the service form and understand the topic of the call, but I'd never bothered with it; so, I would just tell you that I know the potential. How they were moving, however, I had never studied in depth, and I don't have many other personal experiences.
Question 3) What is the Current level of knowledge on AI of your organization?	
IT Digital Specialist answer	If the evaluation is always from 1 to 5, I would give you 2 for the level of knowledge to make an average, because there are many of us in the company. I would therefore tell you a two not to put a 1, so to balance.
IT Digital Manager answer	Compared to the IT Digital Specialist I would lower the first two answers. Even in the small companies that we are incorporating it happens the same. Anyway, you should consider that the two of us are inside the part that is most interested in AI and is driving it, so perhaps our perception is a little misguided because we have the boss of the boss who is very active, so he's in. He's had many meetings

	and wants to push a lot on the subject. However, if we look from a truly higher point of view, I will say that the company knows on a 1 level because artificial intelligence for the employees is limited to Siri on the mobile phone.
Question 4) What is the Level of interest on AI of your organization?	
IT Digital Specialist answer	Net of the very low knowledge, the level of interest is extremely high, so I'd probably give a 4 for not exaggerating, because then it's not something that falls on all departments.
IT Digital Manager answer	Compared to the IT Digital Specialist I would lower the first two answers. In terms of interest level, I tell you it is quite lukewarm, so I would like to tell you further because it is interesting, but still, today if you go to ask employees how to use AI, they answer “dunno”. Ok, so let’s say that from our internal IT point of view, I would tell you a bit like M. said, indeed balancing perhaps even a little more, but out of our area is very little, so I guess we can report a 2.
Question 5) What is the Current level of AI adoption in your company?	
IT Digital Specialist answer	The level of interest is very very high, while the level of counter workshops is very very low. I might as well put a 1 here because we haven't grounded anything yet. However, at the current level, the

	adoption is really like to zero, but it ranges from one to five, but if I could have said 0 because that reflects the situation clearly.
IT Digital Manager answer	Regarding this question I agree with the IT Digital Specialist because we can't put zero on the adoption level, so we put one, but no one in the company had yet moved.
Question 6) Why has your firm decided to adopt an AI-enabled CRM system over the traditional legacy system?	
IT Digital Specialist answer	We know AI can help us. AI potentiality is high.
IT Digital Manager answer	Especially from the top management there is the fever among AI introduction and the fear of missing the train. Top-level executives want to throw them in this new trend even though they do not already own the specifics or the use cases. I would say that, for the top management, this craving comes from the aim to twist the business and ultimately the turnover and revenue. By introducing AI, we give a better service to our employees and customers, and this is reflected in a better product, even though the paper itself is quite historical material.
Question 7) What are your strategic, tactical and operational priorities to adopt this new system?	

IT Digital Specialist answer	We are working on a double side: giving a better service by transmitting this trendy message and meanwhile trying to ease workers' life.
IT Digital Manager answer	So, what we want to do is to use technology to give outside the signal that the company is modern and avant-garde, and consequently to transmit the feeling that the product itself is innovative.

Table A.2: Zoppas Industries interview

Question 1) How would you rate your understanding of Artificial Intelligence (AI) on a scale of 1 to 5, with 1 being minimal knowledge and 5 being expert-level understanding?	
Business Application Manager	I would say a 3.
Question 2) Have you had any previous exposure to AI technologies or concepts in your personal or professional life? If yes, could you please elaborate on those experiences?	
Business Application Manager	I did some trials with apps that generate insights and not much more.
Question 3) What is the Current level of knowledge on AI of your organization?	
Business Application Manager	Low, only a few people know it.
Question 4) What is the Level of interest on AI of your organization?	
Business Application Manager	Medium and increasing. As we showed you, we are moving towards information, looking for services and what's available in the market.
Question 5) What is the Current level of AI adoption in your company?	

Business Application Manager	Very low, like 1. Only a few people use ChatGPT as a tool but not more.
Question 6) Why has your firm decided to adopt an AI-enabled CRM system over the traditional legacy system?	
Business Application Manager	There is a general movement toward this topic and we are evaluating whether to introduce AI or not according to the information we'll receive and to what benefits our employees can perceive.
Question 7) What are your strategic, tactical and operational priorities to adopt this new system?	
Business Application Manager	We still haven't defined priorities. We currently are in an exploratory phase.

Table A.3: Azimut Direct S.p.A. Interview

Question 1) How would you rate your understanding of Artificial Intelligence (AI) on a scale of 1 to 5, with 1 being minimal knowledge and 5 being expert-level understanding?	
CTO - Chief Technology Officer	I think personally I would say 2.
Question 2) Have you had any previous exposure to AI technologies or concepts in your personal or professional life? If yes, could you please elaborate on those experiences?	
CTO - Chief Technology Officer	I use them commonly: to simplify my activities like graphs creation and to ask for support in the service configuration. I use tools like Midjourney, Chat-GPT e Dall-e.
Question 3) What is the Current level of knowledge on AI of your organization?	
CTO - Chief Technology Officer	For us as a company it is new to be able to address and solve problems through AI, so the level is very low maybe a 1.
Question 4) What is the Level of interest on AI of your organization?	
CTO - Chief	Since AI can create many solutions with a high degree of automation and complexity while taking already existing data as a

Technology Officer	source, our company is strongly interested in this argument, so I would assess a 4.
Question 5) What is the Current level of AI adoption in your company?	
CTO - Chief Technology Officer	Currently it is almost never used, if not sporadically by colleagues (the most used tool is ChatGPT). I would say 1.
Question 6) Why has your firm decided to adopt an AI-enabled CRM system over the traditional legacy system?	
CTO - Chief Technology Officer	For us and in our processes, being able to predict a possible business opportunity or prevent a weakness, is fundamental. We believe that through AI we can achieve a very high level of automation and prediction with our data
Question 7) What are your strategic, tactical and operational priorities to adopt this new system?	
CTO - Chief Technology Officer	Now we are not able to define a priority level regarding strategy or tactic and we are uncertain about which AI applications to adopt first. However, we would like to be able to do so by studying the different problems and trying to picture a solution with AI support

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