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How Does Artificial Intelligence Adoption Differ Across The Consulting, Banking And Human Resources Sectors?

The Case Of Artificial Intelligence In Accenture

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Abstract

This paper provides a comparative analysis of Artificial Intelligence (AI) adoption within the industries of Consulting, Banking, and Human Resources. Using the authors' professional experiences in Accenture, KPMG, Banco de Portugal, and Mercer, this paper examines the adoption and impacts of AI in these specific companies. The research also assesses the impact on efficiency and discusses the challenges encountered. Furthermore, a cross-industry comparative analysis is conducted, revealing distinctive approaches and commonalities in how these industries apply AI technologies.

The individual component delves into Accenture's adoption of Artificial Intelligence, examining the challenges and identifying gaps in its implementation. Through a detailed analysis, the study aims to contribute valuable insights to Accenture's ongoing AI journey.

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Keywords: Artificial Intelligence, Cross-Industry Analysis, Strategic AI Integration, AI Adoption Challenges

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Group Part

Introduction

The utilisation of computer systems to carry out tasks that typically require human understanding is commonly referred to as Artificial Intelligence (AI), having been around for over 60 years (Deloitte 2023). However, it had a remarkable boost in recent years, placing itself at the forefront of disruptive technologies with significant consequences for businesses (Akerkar 2019).

With a market size projected to reach $241.80 billion in 2023 and a compound annual growth rate of 17.3% each upcoming year until 2030 (Statista, n.d.), it is undeniable that AI is becoming more and more widespread in business settings ("Review of Using Technologies of Artificial Intelligence in Companies - ProQuest," n.d.).

According to a recent Price Waterhouse Cooper (PwC) report, Artificial Intelligence will contribute more than USD 15 trillion to the world economy by 2030 and may have a 26% positive impact on local economies.

AI is viewed as a powerful instrument for automating operations, improving decision-making, and enhancing productivity (Weitzman 2022). As a result, organisations from a variety of industries and functions are utilising AI's capabilities in their day-to-day activities. In light of these trends, companies must keep up with current developments and remain at the forefront of technical innovation to remain competitive (Weitzman 2022). The choice to incorporate AI in their strategic vision is no longer seen as an option, but instead as a necessity for long-term growth and survival.

Motivation

The driving force for this thesis arises from a distinctive advantage point that we, the authors, collectively offer. Following the completion of our Master's degrees, our professional paths

have led us into a variety of industry sectors, each of which is distinguished by its own set of unique challenges and characteristics. We are currently, or were recently, engaged in pivotal roles at esteemed organisations such as Accenture, KPMG, Banco de Portugal, and Mercer.

As AI rapidly alters the business landscape, it becomes imperative for companies to not only adeptly integrate new technologies into their daily operations but also grasp the ethical and societal implications, to minimise risks (Talagala 2022). In this sense, our ability to draw from a broad spectrum of perspectives can provide a more comprehensive analysis of how AI is being implemented and how it can be improved in distinct contexts such as Consulting, Banking and Human Resources.

This multifaceted understanding has the potential to not only improve the dialogue among companies who are integrating AI into their operations but also foster the transfer of innovations and valuable insights gained from addressing common challenges and gaps.

Problem Statement

Companies must successfully integrate AI into their businesses to stay competitive, increase efficiency, and foster innovation. Despite the potential advantages that adopting AI may have, it is critical to tackle the difficulties to increase the likelihood of successfully implementing AI. With this in mind, this paper will address industry-specific challenges and gaps since the uniqueness of AI's integration inside each sector may present different challenges. Banking, for instance, may face strict regulatory constraints, while Consulting may struggle not only with adapting AI solutions to its client portfolio but also with how to increase internal efficiency, and HR industry challenges may focus more on talent management and privacy concerns.

Recognising those differences and tackling industry-specific difficulties is not just a desired element in this paper but an essential prerequisite for the effective study of AI technology among different sectors.

Another challenge that will be addressed in this study is the limited comparative analysis between companies. While there is an increasing quantity of literature on AI adoption in individual industries, there is an absence of research that gives a comparative study across companies and sectors. This lack of cross-industry analysis limits the ability to find common patterns, best practices, and useful lessons that might extend beyond individual industries.

Without this broader perspective, decision-makers can miss out on opportunities that may have the potential to dramatically improve AI adoption on a global scale. Moreover, an in-depth comparison analysis would not only assist in identifying general issues that organisations encounter when using AI, but it would also allow for a more effective allocation of resources and knowledge sharing, enabling industries to learn from one another's successes and failures.

Objectives

To fully understand the transformational potential of AI inside these different industries, this study is guided by several interconnected goals with the final objective of answering the research question “How Does Artificial Intelligence Adoption Differ Across The Consulting, Banking And Human Resources Sectors?”.

This paper aims to explore the current state of corporate use of AI across the analysed companies. The possibility of accessing information first-hand through our professional experience provides the authors with the ability to share a real-time view of AI maturity levels in the Consulting, Banking, and HR industries. Moreover, new trends will be analysed as well as the range and breadth of Artificial Intelligence use. As a result, an investigation and documentation about the AI adoption, impact, gaps, and challenges that these companies face will be conducted.

Beyond that, this thesis aims to undertake a complete cross-industry analysis of organisational strategies, challenges, and opportunities, and provide a comparative analysis of how AI is used within the featured firms. By bridging the gap between these industries, we hope to facilitate

the exchange of valuable insights and, ultimately, foster a collaborative mindset as a way to enhance the adoption and efficacy of sound AI practices.

Literature Review: Introduction to Artificial Intelligence in Business

AI's History and Evolution

Theoretically, computers and Artificial Intelligence were made possible by the notion of a "universal machine," which was initially put forth by British mathematician and computer scientist Alan Turing in the middle of the 20th century. Later in 1950, Turing released the "Computing Machinery and Intelligence" paper where he presented the famous Turing Test, a technique for assessing how well machines can exhibit intelligent behaviour indistinguishable from that of a human. In 1956, John McCarthy organised the Dartmouth Workshop, which is regarded as the inception of AI as a recognised academic field. This event popularised the term "Artificial Intelligence" and laid the foundation for research on AI (Rajaraman 2014).

Despite the initial enthusiasm, the 1970s and 1980s witnessed the "AI winter", characterised by slower growth and funding agencies that were uninterested in supporting AI initiatives (Drew 1973). During this period, AI was primarily concerned with expert systems, which were computer programs developed to replicate human expertise in specific domains. Moreover, in 1980, Japan's Ministry of International Trade launched the Fifth Generation Computer Systems project aiming to develop advanced AI and computer technologies. However, the project's goals were overly ambitious, contributing to another AI funding decline (Pollack 1992).

As a result of advancements in machine learning and the availability of large datasets, Artificial Intelligence research experienced a period of growth in the 21st century. An increasing number of examples showing the power of AI began to emerge: In 2011, IBM's Watson demonstrated remarkable AI capabilities by defeating human champions in the quiz show "Jeopardy!" (Sheikh, Prins, and Schrijvers 2023). In 2012, a Deep Learning model won the ImageNet Large Scale Visual Recognition Challenge, revolutionising computer vision. Concurrently, virtual

assistants driven by AI, like Google Assistant and Apple's Siri, became widely adopted. In 2016, DeepMind's AlphaGo beat Lee Sedol, the world Go champion (The Guardian 2016). Since then, AI has continued to thrive in a variety of fields, from autonomous vehicles to healthcare, reshaping industries. More recently, in 2018, OpenAI introduced GPT (Generative Pre-trained Transformer), accelerating the development of future LLMs (Forbes 2023). In November of 2022, OpenAI launched ChatGPT to equip a chat-based UI (User Interface) to its GPT-3.5 LLM (New York Times 2022). In the past, AI relied heavily on human commands, and workers were required to participate in all stages. However, humans are becoming less and less needed as machines can learn on their own based on trial and error and past data.

Basic Concepts of AI

Machine Learning (ML) is the science of training a computer or a system to perform certain tasks without the need for explicit instructions to do so (Amazon 2023), hence it is considered a part of Artificial Intelligence (McKinsey & Company 2023). ML algorithms are used by computer systems to evaluate massive amounts of data, spot data patterns, and forecast precise results for unusual or new circumstances (Pramila P. Shinde, Seema Shah, 2021). ML is considered the biggest segment of the AI market, encompassing the majority of AI software and projects ("Topic: Machine Learning" 2023). The primary goal of ML is to develop learning algorithms capable of building models by being fed data based on past observations ("Machine Learning," n.d.). There are two primary techniques used in ML, each of which contains a multitude of algorithms designed for distinct purposes and applications.

Supervised learning trains a model to predict future outputs based on example input-output pairs, called labelled training data. The computer uses these examples to figure out a rule or pattern, which it subsequently applies when making predictions or classifications on the test dataset (Mahesh 2019). Classification, one of the main branches of supervised learning, consists of determining one or more categories to which a new observation can be assigned

(Schneider and Xhafa 2022). Spam detection illustrates a supervised ML model, given that emails or messages are categorised as either spam or non-spam.

Regression, on the other hand, is the process of predicting a continuous variable (dependent variable) as a function of independent variables (Gallo 2022). It is used in several fields, including finance, for instance, to project a company's future cash flows by using historical data from past financial statements and industry-wide indicators (Harvard Business School 2021).

Unsupervised learning takes a different approach, relying on unlabelled data to autonomously discover the underlying structure and patterns in the dataset. Unlike supervised learning, where models are trained to predict specific outputs, unsupervised learning methods operate without prior knowledge of target values – The ML system highlights distinctive aspects within the dataset, allowing the data itself to guide the discovery process (Zhou, Song, and Sundmacher 2019) (Delua 2021). Typical methods include clustering, which is the process of grouping objects according to similarities or differences (Madhulatha 2012) by using distance measures (Data Mining and Knowledge Discovery Handbook 2005). Association rules, another unsupervised learning approach, find underlying relationships between variables. When applied to market basket analysis, it reveals consumer purchasing patterns by identifying frequently purchased item sets, intending to assist companies in their business decisions (Teng 2011) (Subasi 2020). Dimensionality reduction is another method often applied in the analysis of high-dimensional data, like images or texts, to reduce input size and lower data processing time, while preserving the integrity of the original dataset (Bouchefry and De Souza 2020) (Schneider and Xhafa 2022).

One of the most prominent applications of these methods is Computer Vision, the second most adopted AI capability in 2022 (McKinsey 2022), which enables systems to extract insights from images or videos, automating tasks that replicate human visual perception and

interpretation (IBM n.d.). It is widely used in organising content on social media platforms by identifying individuals and objects and structuring them in an organised manner. It also plays a crucial role in autonomous vehicles for real-time object recognition (Microsoft n.d.). As of 2022, approximately 34% of companies have incorporated Computer Vision into their products or business processes, making it the second most adopted AI capability after robot process automation at 39% (McKinsey 2022).

Deep Learning, a subfield of Machine Learning can be applied in both supervised and unsupervised learning scenarios. It employs algorithmic structures called neural networks that are inspired by the human brain (Microsoft 2023). DL is often seen as an ML advanced technique, since traditional ML requires significant human interaction, while DL removes the need for humans to be present in each step (Amazon 2023).

Businesses integrate ML into their essential procedures for several strategic reasons. It can increase performance outcomes and boost a company's standing in the marketplace. Discovering trends and correlations, tailoring consumer engagement, and eventually boosting a business's revenue and growth are just a few of the advantages (Deloitte 2023). Businesses may use the data insights produced by machine learning to recognise, understand, and communicate with consumers more effectively. Data analytics powered by ML can also enhance efforts at customer segmentation to identify the most lucrative customers.

The companies that currently have data analytics capabilities benefit the most from ML in terms of gaining a competitive advantage. Businesses that employ data-driven decision-making processes outperform rivals with regard to productivity and profitability by 5% and 6%, respectively (Deloitte 2023).

Additionally, the subfield of Artificial Intelligence known as natural language processing (NLP) makes it possible for computers to comprehend, generate, and manipulate human language (Google Cloud 2023). Using natural language text or speech, NLP can query the data,

which helps improve search, automate routine tasks, analyse, and organise large documents, or provide insightful market findings (Oracle 2023).

Generative AI is another type of AI, which relies on NLP and Deep Learning to generate original content similar to its trained data. This new wave of text-based ML models is built upon a technique called self-supervised learning. In this method, the model is exposed to an extensive volume of text data, enabling it to develop predictive abilities. In this way, Generative AI allows increased employee productivity, which in turn leads to better allocated time and resources for clients (Brynjolfsson, Lindsey, and Raymond 2023). McKinsey's Global Survey 2023 concluded that 40% of organisations expressed their intention to increase their overall AI investments because of advances in Gen AI. This reflects a growing recognition of Gen AI's potential to catalyse transformative changes across industries.

These ML models, according to Deloitte's Report on Business Impacts of Machine Learning, are the heart of AI capabilities. This report expects the global market revenue for ML as a service to grow to US$ 20 billion by 2025, which is an important finding for this paper since it translates the increased importance in both the short and long-term of investing in AI in the studied companies. However, by its very nature, ML demands large volumes of data to train models, which involves a huge commitment of both time and resources. Finding the right algorithms and creating a working model take time, and it may take several iterations to produce a useful outcome.

Applications of AI in Business

Machine Learning and Artificial Intelligence have emerged as powerful technologies with the potential to revolutionise a variety of business operations aspects. AI's versatility has been particularly evident in the business world, where it may be leveraged in various domains which will be highlighted throughout this chapter.

AI in Marketing: Consumer Analytics

AI Marketing is the act of delivering customer insights and automating crucial marketing decisions utilising AI capabilities such as data collecting, data-driven analysis, natural language processing, and Machine Learning (OECD 2021). Today, more than ever, AI technologies are being used to create content, enhance customer experiences, and provide more accurate results. Organisations must fully investigate the many AI marketing applications available and see how other companies are utilising them before selecting an AI tool (IBM 2023).

Customer segmentation and targeting are critical phases in the market analysis as they help organisations identify and reach their most valued consumers (Deloitte 2023). Without AI, segmentation can be quite expensive due to the need to gather a sizable consumer database from numerous locations (Huang 2020). AI can be used to optimise customer targeting by using data-driven algorithms to discover and create market segments, resulting in more effective marketing campaigns.

Within segmentation, AI can assist in creating not only the market but also psychographic segments. Psychographics are indicators of a person's preferences, attitudes, and beliefs (Suman 2019). When paired with demographic information, psychographic information can provide companies with a nearly comprehensive image of the persona and aid in the selection of products that will appeal to this persona. Digital markers for illustrating a person's personality could include past internet activity, browsing behaviour, or past purchase history (Hult International Business School 2023). This data can be used in the marketing strategy, allowing firms to align their marketing mix with the values of their customers.

Overall, employing AI for consumer segmentation and targeting benefits businesses in a variety of ways, including increased competitive advantage and innovation, customer comprehension and contentment, and marketing efficiency. Hence, AI helps speed up marketing campaigns

and increase return on investment (ROI) by cutting down on the time and expense of segmentation and targeting (IBM 2023).

According to marketers worldwide as of December 2020, the use of AI in marketing has contributed to a 41% increase in revenue, as well as a 40% increase in the insights from marketing data. As previously mentioned, AI allocates time efficiently, and according to these statistics, there was a 35% reduction in time spent on data-driven tasks. As a result, the ROI on campaigns improved by 34%, resulting in an increased efficiency of 33% (Statista 2020).

In conclusion, incorporating AI in the marketing strategy has become a requirement for companies to gain a competitive advantage, improve decision-making, be more efficient, and boost both customer loyalty and engagement.

AI in Supply Chain Management: Predictive Analysis

In business, predictive analysis has a wide range of applications aimed at optimising supply chain operations and decision-making. At the same time, AI empowers predictive analytics to be faster and smarter than ever before (Lungarella, Iida, Bongard, and Pfeifer 2007). For instance, in demand forecasting, AI algorithms analyse previous sales data and industry trends, allowing organisations to forecast future demand. This information is useful in optimising production and distribution tactics, hence reducing inventory overstock and understock problems (Weingarten 2021). Another area where AI can assist is inventory optimisation, which uses predictive analytics to estimate ideal reorder points and safety stock levels.

Predictive analytics also improves pricing, personnel scheduling, transportation, and storage management. Real-time pricing adjustments powered by AI-driven algorithms enable firms to quickly adapt to market changes while increasing revenue (Garden 2023). Furthermore, staff scheduling becomes more efficient as predictive analytics foresee peak demand hours and skill requirements, optimising staff levels and enhancing customer service. Also, businesses may utilise predictive analytics in transportation management to optimise routes, precisely

anticipate delivery times, and resolve any delays (Biswas 2023). Finally, storage and warehouse management benefit from predictive analysis by projecting high-demand items and optimising their placement, minimising operational inefficiencies (Memon 2020).

As a consequence of these possible applications in business, AI-powered predictive analysis plays a crucial role in supply chain management as it provides valuable insights that optimise the whole supply chain. It helps businesses make informed decisions, ensuring the right products are available at the right time while minimising costs (Owczarek 2021). Moreover, according to McKinsey & Company, applying AI-driven forecasting to supply chain management can reduce errors by 20% to 50% and translate into a reduction in lost sales and product unavailability of up to 65%.

AI in Cybersecurity

In the cybersecurity landscape, the cyberattack surface is massive, and it is continuing to grow rapidly. This means that improving an organisation's cybersecurity posture now needs more than mere human intervention (Belani 2022). As a result, the integration of AI has emerged as a critical defence tool. Artificial Intelligence, with its rapid data processing and pattern recognition capabilities, is crucial in strengthening cybersecurity countermeasures.

For instance, AI can improve threat identification and analysis in cybersecurity. AI systems are capable of detecting anomalies in network and user behaviour and recognising known dangers through pattern analysis (Rehman and Saba 2014). Moreover, for log analysis, correlation, and alerting, AI is useful in Security Information and Event Management (SIEM) solutions. Its algorithm is capable of sorting through massive amounts of security logs and event data, alerting to potential security incidents, while traditional software systems cannot keep pace with the huge number of new malwares created every day (Belani 2022).

Regarding hacking attacks, AI improves email security by assisting with phishing detection. To detect these attempts, AI systems analyse email content, sender behaviour, and other criteria

(Moisset 2023). This proactive method protects organisations against one of the most popular cyberattack methods. Furthermore, by automating many components of cybersecurity processes, AI contributes to a better incident response: it can help security teams prioritise and respond to threats more efficiently by assisting in the early triage of security problems (Kaur, Gabrijelˇciˇc and Klobuˇcar 2023).

By applying AI-powered systems in these possible manners, companies can strengthen their safety measures and better defend against threats. Nowadays, it is crucial to integrate AI-driven solutions for an updated cybersecurity strategy. According to Forbes, 76% of enterprises have prioritised AI and Machine Learning in their IT budgets, due to the volume of data needed to be analysed to mitigate cyber threats. This is supported by BlackBerry's research results that revealed 82% of IT decision-makers plan to invest in AI-driven cybersecurity in the next two years.

In conclusion, while advantages may vary based on elements unique to each business, AI helps detect threats more quickly, minimising false positives, preparing for future threats, automating incident response, and increasing overall cybersecurity endurance. Nowadays, embracing AI in cybersecurity is not merely a technological choice, but a requirement for companies seeking to safeguard their digital domains (Garbo 2023).

AI in Talent Acquisition

According to McKinsey, the incorporation of Artificial Intelligence in talent acquisition delivers considerable benefits, with a reported 25% year-over-year growth in adoption. This spike translates to increased income and cost savings for organisations that embrace AI. Furthermore, Artificial Intelligence improves decision quality by providing data-driven insights for strategic decision-making (Murugesan 2023).

AI solutions in talent acquisition help to streamline recruiting by automating operations like resume screening, decreasing the need for manual labour. This automation allows recruiters to

concentrate on more quality candidates, increasing efficiency (Murugesan 2023). Ideal Corp's deployment of AI, for example, resulted in a 71% decrease in recruitment expenses and a tripling of recruitment efficiency (Gaidhani 2020).

Additionally, by matching profiles to job requirements and forecasting future performance using application data, AI improves the accuracy of candidate matching. To reduce unconscious bias in hiring practises, it also helps with inclusive job descriptions and improving candidate filtering (IBM 2021). Moreover, AI is essential in enhancing the applicant experience in talent acquisition by increasing the number of eligible applicants and promoting applications. Furthermore, by analysing data to find patterns indicating low engagement or high turnover rates, AI improves employee engagement and lowers turnover. HR professionals can proactively address issues through training and workplace improvements thanks to the information provided by this analysis (Kimseng 2020).

Instead of depending on HR managers to conduct surveys, interviews, observations, assessments, and job data analysis to determine skill gaps, companies can now promote continuous learning in training and development by utilising a variety of AI tools (Jia 2018). Additionally, AI supports the professional development of employees by optimising learning experiences for improved results, analysing data to identify knowledge gaps and suggesting customised training programmes (Loo See-Beh 2018).

Lastly, AI plays an important role in performance management by analysing employee performance data using algorithms. Organisations can develop tailored strategies to boost overall performance and productivity while identifying areas for improvement (Oswald 2019).

AI in Risk Management

In risk management, AI has become paramount in analysing large amounts of unstructured data more quickly and with reduced reliance on human intervention (Basrai 2021). Given that unstructured data constitutes more than 80% of all enterprise data (Education 2021), cognitive

technologies can be used to derive insights from this type of data. Therefore, businesses may acquire a major competitive edge by utilising these technologies to predict and control risks (Deloitte 2016).

In credit risk, AI can be used to assess credit scores by analysing borrower data and predicting their probability of default (Božić 2023). Multiple studies have shown that ML models outperform benchmarks in predictive accuracy and proposing effective hedging strategies, resulting in cost savings (Aziz and Dowling 2018). However, these advanced techniques lack transparency, making it difficult to understand loan approval or denial for specific borrowers. Regulatory requirements have given rise to the conception of explainable IA, offering a variety of ML methods that establish a balance between explainability and predictive accuracy. Although these techniques provide consistent explanations that are aligned with financial reasoning, there is room for developing more robust models (Misheva 2021).

Regarding market risk management, ML is especially useful for stress-testing market models to detect unforeseen trading risks. Cluster analysis and DL models are widely used in financial firms to identify associations between assets and optimise trading strategies (Aziz and Dowling 2018). Amidst the COVID crisis, spikes in volatility and uncertainty in financial markets posed challenges for many institutions in rapidly assessing value at risk (VaR) for various asset classes, which led to substantial losses. Given the consequences, some institutions have started to integrate ML techniques into more advanced models, enabling faster calculations for real-time risk management of sophisticated products and more precise valuations (McKinsey 2020).

In the realm of fraud detection, institutions can harness AI capabilities to keep track of financial transactions and detect potentially suspicious login activities (Misra 2023). Although AI provides numerous opportunities, only 13% of organisations in various industries effectively employ it for fraud detection and prevention (Bradley 2023), given that fraud has different levels of complexity. For example, credit card fraud is a suitable application for ML algorithms

given the high transaction volume and well-defined features. Conversely, money activities often lack precise legal definitions and involve multiple external parties, which makes data sharing among financial institutions more challenging. Considering this, innovative approaches that tackle these intricacies should be studied (Bao, Hilary, and Ke 2022).

Overall Challenges of AI

To effectively harness and integrate AI, a thorough understanding of its challenges is required. Making informed decisions about the best AI technologies for a company's specific needs is impossible without this foundational knowledge.

According to a McKinsey & Company study, organisations face significant challenges in effectively leveraging AI. Only 17% of the companies polled have identified all potential AI opportunities, and only 18% have developed a coherent data acquisition strategy for AI initiatives (Figure 1). Strategic issues are consistently identified as the primary impediment to AI adoption, with the lack of a well-defined AI strategy being the most frequently mentioned impediment. AI initiatives are also hampered by a lack of qualified talent, functional silos, and leadership commitment (McKinsey & Company 2018).

Furthermore, there are significant ethical concerns around bias and fairness in the sphere of Artificial Intelligence. AI systems may assimilate biases from their training data if not meticulously crafted, potentially resulting in unjust or prejudiced results. This ethical quandary is significant because biased AI has the capability to sustain and worsen pre-existing societal disparities (Harkut 2019).

With respect to data privacy and security, AI systems frequently depend upon access to confidential information about customers or employees. Safeguarding this data is crucial to maintain trust, comply with regulations, and prevent damage to reputation (Harkut 2019).

Additionally, high implementation costs are a significant impediment to widespread AI adoption. Creating AI models necessitates specialised talent, infrastructure, and resources, as

well as research and development investments. This includes hiring costs for data scientists, Machine Learning engineers, domain experts, and the hardware and software infrastructure required for AI development and testing (Harkut 2019).

Inadequate expertise is a significant hurdle to AI's widespread enactment. Companies that lack the necessary knowledge may face difficulties in effectively implementing AI solutions. This could point to the development of AI systems that do not provide the expected benefits and may even disrupt current processes, resulting in ineffective AI implementation (Celik 2022).

Moreover, job displacement is a frequent regard among employees in the context of AI, particularly in industries with high automation potential like manufacturing and customer service (Ekwueme 2023). This apprehension stems from the perceived threat of task automation leading to job loss. Finally, employees frequently lack understanding of AI, viewing it as complex and disruptive, fuelling scepticism and resistance. Resistance is exacerbated by personal biases against technology or a preference for traditional methods. Concerns have also been raised about AI taking over decision-making processes, potentially undermining job autonomy and authority (Malik 2021).

The Regulatory Landscape

The AI regulatory landscape is quickly changing, driven by employees and international organisations working to create proper rules and standards for the advancement and handling of AI.

A prominent illustration of strict rules shaping AI applications is the General Data Protection Regulation (GDPR) within the European Union (EU). This comprehensive framework mandates explicit consent and transparent AI decision-making, safeguarding the rights of data subjects (European Parliament 2020). In 2018, British Airways experienced significant enforcement of GDPR when the UK Information Commissioner's Office imposed a £20 million fine on the airline for insufficient data protection safeguards. This incident served as a concrete

illustration of the tangible consequences of failing to comply with regulatory requirements (Canayaz 2021).

In addition to legally binding regulations, non-binding AI ethics guidelines issued by various entities offer a framework for responsible AI development. Although not legally binding, these guidelines serve as valuable resources for organisations and policymakers. The Organisation for Economic Co-operation and Development (OECD) AI Principles, emphasising transparency, accountability, and human values, stands out among these guidelines (OECD 2019). These principles are crucial in influencing moral principles within the dynamic realm of Artificial Intelligence, potentially influencing future regulations. Another example is Brazil's National AI Strategy, which emphasises the importance of guiding AI technologies for global benefits. The strategy is intended to be inclusive and open to public input, to involve all sectors in AI development and to maximise benefits in scientific progress, competitiveness, productivity, and overall welfare. It outlines various policy objectives for the inclusive and beneficial deployment of AI (OECD 2020), which are aligned with the G20 AI Principles.

This nuanced exploration of AI regulation, which includes legal frameworks, ethical guidelines, and national strategies, highlights the complexity of governing Artificial Intelligence.

AI Integration in Consulting: Industry Best Practices

The omnipresent influence of AI is undeniable across every industry, and the consultancy sector is no exception. Consulting is certainly one of the industries where AI is changing the nature of work, how the work is done, and who does it (Forbes 2023). In an era where data-driven knowledge and efficiency are crucial, consulting firms have recognised the revolutionary potential of Artificial Intelligence, with a particular focus on Generative AI. These firms are increasingly incorporating Gen AI technologies into their operations to gain a competitive advantage, improve efficiencies, and accelerate innovation (EY 2023). This can

be accomplished by utilising cutting-edge software tools that accelerate data-intensive routine processes during problem investigation and solution development (Volker Nissan 2019). However, AI alone is insufficient. Businesses should not think of Artificial technology in isolation, they should incorporate it into their current procedures and systems to enhance human capabilities and processes (Boston Consulting Group 2023).

Additionally, as AI consultants have the powerful capacity to analyse data from numerous sources and detect patterns that human consultants may lack the time or knowledge to uncover, the demand for AI consulting services has exponentially increased in the past year (Forbes 2023).

In 2023, as Gen AI is on the rise, businesses are remarkably interested in incorporating Generative AI solutions into their operations as they recognise the revolutionary potential of this technology. Clients are willing to pay millions in consulting fees to help deploy Gen AI into their companies because they expect a payback period of up to three months (Goetz 2023). As a result, big consulting firms are heavily investing in this technology to better meet their clients' needs and the fast movers are planning large-scale implementations to gain a competitive advantage (KPMG National Managing Principal 2023).

For instance, Price Waterhouse Coopers, PwC, is investing $1 billion to strengthen AI customer offerings and tech partnerships, as well as to train 65,000 employees to upskill its workforce for the AI-driven future by forming a partnership with Azure OpenAI Service (PwC 2023).

Additionally, Ernst & Young (EY) announced a recently made investment of $1.4 billion into AI (The Wall Street Journal 2023). Another relevant progress made by EY, in addition to this investment, is the development of its large language model "EY.ai EYQ," with intentions to train 400,000 employees on Artificial Intelligence (The Wall Street Journal 2023). Furthermore, EY also created strategic collaborations with renowned technology firms such as

IBM, Microsoft, and Dell to explore the broad frontiers of AI, assuring its responsible and secure adoption (Lloyd 2023).

Moreover, Deloitte is making significant efforts to leverage the disruptive power of AI through its strategic relationship with NVIDIA. This partnership highlights Deloitte's goal of responsibly integrating Generative AI into its services, supported by its trustworthy AI framework to ensure ethical and safe AI development (Deloitte 2023). In addition, Deloitte created the Deloitte AI Institute to help organisations connect all the different dimensions of the rapidly evolving AI ecosystem.

Ahead of the competition, McKinsey & Company has been developing “Lilli”, a new Generative AI tool. This interactive platform provides insights to employees based on a knowledge base of thousands of documents and archive data. Moreover, workers say Lilli saves up to 20% of their time preparing for meetings and improves the quality of their expertise and contributions (McKinsey 2023). The same company had already acquired “QuantumBlack” in 2015, a top provider of data analytics and AI-driven solutions (Financial Times 2019). This strategic decision strengthens McKinsey's potential to serve customers from a variety of industries by enhancing its ability to provide data-driven insights and solutions.

Additionally, the acquisition of Gamma by Boston Consulting Group (BCG) demonstrates the firm's aggressive efforts to invest in AI and advanced analytics. This strategic move enables BCG to provide customers with unique problem-solving methodologies that leverage AI and Machine Learning to derive insights from large datasets and make more informed decisions. This acquisition translates BCG's commitment to providing customers with cutting-edge and tailored solutions that leverage the potential of Artificial Intelligence to address difficult business challenges and drive long-term success (Boston Consulting Group 2019).

Regarding impact, BCG opted to evaluate the impact of AI on its employees, concluding that consultants using GPT-4 completed tasks 25.1% faster and produced 40% higher quality

results, as illustrated by Figure 2. This demonstrates that the best BCG performers have access to AI technologies (Dell'Acqua, Rajendran, McFowland, Krayer, Mollick, Candelon, Lifshitz-Assaf, Lakhani, and Kellogg 2023).

Challenges and Risks of AI Adoption in the Consulting Industry

While AI presents remarkable opportunities to improve efficiency, it also brings several challenges that must be tackled. Addressing these obstacles is essential for consulting professionals striving to leverage AI's power.

One of AI's limitations in Consulting is its inability to understand the complexity of human behaviour and decision-making. While AI can provide data-driven insights, it may fail to incorporate emotional or social variables that influence decisions. Moreover, AI algorithms may not think creatively or provide original solutions as those provided by consultants (Forbes 2023). Regarding bias and discrimination, these data-driven technologies can replicate and exacerbate societal practices of marginalisation, inequality, and discrimination. AI systems run the risk of duplicating their developers' biases and prejudices as many of the features, metrics, and analytical frameworks of data mining models are chosen by their developers (Gîngută, Stefea, Noja, and Munteanu 2023).

Another disadvantage for consulting firms is the possibility of witnessing a large decline in their clients' willingness to pay for AI-based solutions as they become more widely available. The internet has essentially turned information that was once closely guarded into a commodity. The true added value nowadays is in developing fresh competitive advantages with the data you already have (Harvard Business Review 2017).

Finally, the fast-growing field of AI forces consulting firms to adapt their business model. The reduction in the number of consultants required and/or the number of hours per task required as some daily tasks will be automated can be used to explain why the current business model is being disrupted. Consulting firms should take into consideration that this shift is typically a slow

process since it involves several steps, and companies need to be careful and considerate throughout the whole process (Gonfalioneri 2020).

AI Integration in Banking and Financial Services: Industry Best Practices

Recent advancements in AI technologies promise to drive innovation in the Banking sector at an unprecedented speed and scale (Deloitte 2021), potentially generating up to $1 trillion in additional value worldwide (Biswas et al. 2020). Projections for the current year (2023) indicate savings of around $447 billion. As a result, AI implementation is paramount for financial institutions to remain competitive in a rapidly evolving market with changing customer expectations (O. H. Fares, Butt, and Lee 2022).

In 2021, despite 86% of financial services AI adopters considering AI to be crucial for their business success (Deloitte 2021), only 35% fully incorporated it at scale (Statista 2023). Notably, only 1% of financial services companies are AI leaders. Across all industries, the Banking and Capital Markets sector has the lowest median AI maturity score at 27 out of 100, 9 points below the overall median (Figure 3). Legal and regulatory constraints, inadequate AI infrastructure and a scarcity of AI-trained professionals are among the challenges that most contribute to this low level of AI maturity (Accenture 2023).

Nevertheless, global investments in financial technology have skyrocketed, as evidenced by the number of fintech start-ups more than doubling from 2018 to 2023 (Statista 2023). In the Banking sector, in particular, AI adoption is projected to reach $64.03 billion (Maven 2023).

Banks can leverage AI across different channels, extending from front-office functions aimed at streamlining customer identification and authentication to emulating live employee interaction through chatbots and voice assistants (Digalaki 2022). While chatbots are already being employed at large scale in banks, many customers find them unsatisfactory for providing only general information or basic answers. Nevertheless, there is an increased effort to develop customer-centric AI applications (Thowfeek, Samsudden, and Sanjeetha 2020). The

introduction of language models (such as ChatGPT 3) poses an opportunity to revolutionise the Banking sector, particularly in the sphere of conversational banking, as it can simplify user experience and make financial services more accessible through the use of chat or voice interfaces, even for non-native speakers (Kreger 2023).

Artificial Intelligence is also applied in middle office functions to evaluate risks, identify fraud, enhance anti-money laundering procedures, as well as conducting regulatory checks (Digalaki 2022). Feedzai, for instance, utilises AI for risk management and fraud detection by monitoring customer behaviour and financial activity across various banking channels (Feedzai 2023).

Lastly, in the back office, AI can be used in the credit underwriting process (Digalaki 2022). Despite AI's widespread use across various banking functions, its adoption has been slow in commercial lending due to resistance caused by the lack of interpretability in ML models and incompatibilities with legacy systems. Additionally, the credit lending process has traditionally relied on the analysis of subjective factors and default reasons, leading to the widespread prevalence of manual processes. Despite these factors, the integration of more advanced algorithms with improved predictive power can lead to tangible benefits, such as reduced losses, more favourable capital requirements, and potential cost savings (SAS 2020). Looking at the big picture, traditional credit decisions often take up to two weeks due to a multi-stage process. However, AI integration allows for instant decisions, providing customers with empowerment and time-savings, while balancing organisational risk, maximising profit, and increasing financial inclusion (O. H. Fares, Butt, and Lee 2022).

More recently corporate and investment banks (CIB) have begun exploiting Gen AI for its natural-language understanding (NLU) capabilities, offering a significant step up over NLP-based applications. It can enhance productivity, improve compliance, and support client services. Some leading banks are already leveraging gen AI. For example, Morgan Stanley has partnered with OpenAI to enhance the client service provided by Financial Advisors (Morgan

Stanley 2023). Estimates indicate that integrating Gen AI can result in productivity gains of 30% to 90% in core CIB activities, potentially increasing operating profits by 9% to 15% (Giovine et al. 2023). Gen AI holds significant promise in areas where content creation is labour-intensive and validation is straightforward, including marketing, sales, decision support, research, and trading (Gopalakrishnan, Srinivas, and Chauhan 2023).

In the long run, Gen AI may drastically reduce programming expenses, improve the speed of development and enhance code analysis. Additional opportunities will arise as banks tailor AI models using their data, all while ensuring responsible AI practices are embedded by design and imposing strict guidelines for data acquisition, refinement, and deployment (Abbott 2023).

Challenges and Risks of AI Adoption in the Banking Industry

Today, incumbent banks face a dual challenge of balancing the need for fintech-like speed and flexibility with the maintenance of traditional financial-service enterprise scale, security, and regulatory requirements. Despite significant investment in technology, many banks struggle to scale AI adoption due to a lack of clear AI strategy, weak core technology systems, fragmented data, and outdated operating models. Their core systems often lack the flexibility required for AI applications, and data silos hinder intelligent decision-making. Additionally, banks' traditional organisational structures and processes hinder innovation and experimentation, leading to reliance on third-party technology providers instead of developing in-house capabilities (Biswas et al. 2020).

Given these challenges, the Banking sector is lagging behind, as it has one of the lowest levels of AI implementation at scale compared to all other industries, standing at just 5% (Capgemini 2021).

AI Integration in Human Resources Firms: Industry Best Practices

In the HR business landscape, where the need for quick decision-making overcomes traditional deliberation, Artificial Intelligence emerges as a critical tool, allowing for immediate interventions in human resource management. By seamlessly integrating real-time personnel feedback and assessment, AI addresses workforce shortages and skill gaps through the automation of tasks. A global survey reveals that approximately 30% of IT professionals experience time savings through the implementation of AI and automation tools (IBM 2022). The multifaceted benefits of AI, as illustrated in Figure 4, profoundly impact Human Resources operations.

IBM, at the forefront of innovative solutions, provides extensive career guidance to all employees with Watson Career Coach (WCC). Functioning as a personalised AI advisor, WCC engages employees in exploring their career options through natural language conversations. This AI-driven system combines current employee profiles with historical data, offering a comprehensive experience. WCC includes a feature that matches job opportunities, allowing users to upload resumes or respond to skill-related queries. It not only recommends roles based on qualifications and aspirations, but it also facilitates long-term career planning via an easy-to-use navigation tool.

In the IBM Global AI Adoption Index 2022, it was reported that 45% of companies employ Artificial Intelligence to tackle shortages in workforce or skills, particularly in the domains of recruitment and human resources (IBM 2022). For instance, IBM's use of chatter analysis on internal social media assists in identifying key concerns and providing personalised suggestions to improve team engagement. For example, if an employee receives recognition, the AI tool may suggest that the manager share it, which has been shown to increase engagement. The "Engage at IBM" AI app evolves based on leader feedback, enhancing managerial effectiveness in team motivation.

Setting a benchmark in AI adoption, Oracle HCM Cloud reveals that 64% trust robots over supervisors, and 50% seek advice from robots rather than managers. The company integrates AI, natural language processing, and Machine Learning into the Oracle Digital Assistant, delivering tailored benefits and personalised recommendations based on historical interactions. The Oracle Digital Assistant ensures a personalised experience across various interfaces within Oracle HCM Cloud, spanning laptops, mobile devices, messaging apps, and voice commands. Remarkably, its capabilities extend beyond HR to domains like finance, supply chain, and customer experience (Oracle 2019).

Noteworthy is Oracle's HCM Cloud platform, which distinguishes itself by internally integrating cutting-edge technologies, including the Digital Assistant, eliminating reliance on third-party solutions. This integration streamlines the complexities associated with merging technologies, thereby mitigating post-upgrade concerns, and addressing data privacy issues. The system efficiently employs Artificial Intelligence in recruiting, leveraging market data to optimise job proposals and increase the chances of attracting desired applicants. AI adapts offers based on standard HR data, predicting acceptance by considering factors such as job role, position, and career stage (Oracle 2019).

Challenges and Risks of AI Adoption in the Human Resources Industry

There exists a substantial disparity between the objectives of organisations and the tangible application of Artificial Intelligence in the business environment. Even though 75% of executives see AI as empowering and 85% see it as a competitive advantage, only 20% of companies have integrated AI into specific aspects, with only 5% achieving extensive integration (BCG 2017).

The human resource management (HRM) field still presents several barriers to AI technology adoption (University of Leeds 2018). Notably, AI in HRM is still in its early stages, with few well-established theories and frameworks.

Ethical debates surrounding AI primarily revolve around concerns about job displacement, prompting ethical questions regarding how organisations navigate workforce changes, such as reductions or retraining initiatives (The White House 2022). During the AI transition, companies must address employee concerns and resistance. Transparency about job impacts, specifying affected positions, explaining changes, and including potential role expansions, are paramount (Kaur 2023). Ethical dilemmas arise when AI unintentionally exhibits biases, influencing job candidates or employees based on factors such as race, gender, or age. Biases from training data can lead to unfair practices in HR processes such as recruitment, advancement, and performance assessments (IBM 2021).

Moreover, AI systems in HR manage substantial amounts of personal data, including resumes, interview recordings, and performance assessments. Securing these data and addressing privacy concerns is critical for continuous organisational operations, especially in the context of AI implementation in HR, where safeguarding HR data privacy is crucial. Securing employee data is of utmost importance for organisations.

Individual Sections

Moving on to the individual projects, each section focuses on a different company from the Consulting, Banking, or Human Resources sectors, diving into their AI applications, impact, gaps, and how they face the AI challenges mentioned and explored earlier. The disruptive impact of AI in several domains is highlighted, emphasising how these organisations create their strategy, navigate problems, and drive change. As previously stated, each of us will be concentrating on how this technology applies in a specific company among Accenture, KPMG, Banco de Portugal, and Mercer, based on our recent experiences within these four firms.

AI in Accenture - Mª Pilar Calheiros

Introduction

This chapter focuses on comprehending the specific impact of Artificial Intelligence within the consulting company Accenture. Therefore, delving into the AI tools the company uses, examining its AI strategic investments, understanding how it addresses the AI challenges and gaps, and assessing the significant effects these advancements have on its results, clients, and workers are some of the aspects that will be further discussed.

Accenture, founded in 1989, provides services in a variety of sectors and functions, although its primary concentration is on strategy consulting, technology solutions, and operations. The goal of the company is to guide and help clients in implementing solutions that will allow them to function more cost-effectively. Accenture serves clients in over 120 countries, including more than 75% of the Fortune Global 500 (Accenture 360º Value Report 2022). Moreover, its technological expertise and industry knowledge make it a desirable choice for both potential clients and workers. Concerning recent financials, Accenture has strong fiscal 2023 results: revenues for 2023 were $64.1 billion, with a growth rate of 4.07% when compared to 2022 (Accenture 2023).

One of its strategic pillars is to create 360° value for every stakeholder, including customers, employees, shareholders, partners, and communities. This principle, as expressed by Julie Sweet, chair and CEO of Accenture, reflects their growth strategy, values, and culture of shared success. Accenture describes the 360° Value as providing distinctive value to clients while also engaging with customers to achieve growth (Accenture 2021).

Finally, the company's emphasis on technology services, as mentioned earlier, consistently positions it as the market leader in IT Consulting. The company strives to remain on the cutting edge of technology, with over 6,700 patents submitted (Wood 2023).

Methodology

To sustain this chapter, two distinct methods of investigation were employed to gather comprehensive insights into the subject matter. The first method involved an in-depth examination of online resources, including Accenture's official website, Accenture's newsroom, and relevant papers, allowing for the collection of publicly available information. In addition, the second crucial approach utilised was conducting interviews with Accenture Portugal's employees. These interviews provided invaluable first-hand perspectives, personal insights and thoughts, and knowledge that could not be derived solely from research. Although the interviews are a valuable source of trustworthy information, it is crucial to highlight that the material is consequently limited to the interviewees' thoughts and experiences.

Therefore, four interviews were conducted to better understand how AI is being used and how it impacts Accenture's daily activities, efficiency, and productivity. The goal was to speak with employees from different Accenture Portugal departments, such as the Operations, Technology and Strategy & Consulting departments, to better analyse how this technology acts in different areas. It is important to note that, even though Accenture is present across the globe, the focus will be on Accenture Portugal employees' points of view. Furthermore, the respondents requested anonymity, meaning no identities will be associated with this chapter.

Inside the above-mentioned areas, the job positions of the interviewees include an Operations Manager (working in the company since 2016), a Transformation Excellence Analyst (since 2022), a Strategy & Consulting Analyst (since 2021) and a Data & AI Consultant (since 2016). The interviews were conducted through a Microsoft Teams call with durations between 15 and 45 minutes each, recorded with the interviewees' consent. These testimonies will be mentioned throughout the study as a foundation for our assumptions and as a supplement to the research conducted. Combining these two methods achieved a more complete understanding of the topic.

AI Investments and Partnerships

Regarding investments made, Accenture announced a $3 billion investment in its Data & AI practice to help clients utilise AI to boost their productivity (Accenture 2023), while aiming to grow its AI team to 80,000 workers through recruiting and training (The Wall Street Journal 2023). According to one interviewee, this investment is focused on Accenture's capacity to work with the clients and develop their mechanisms, as the company, with this investment, has plans to launch the AI Navigator for Enterprise, an AI-powered platform that will assist clients in making more informed decisions through better comprehension of the algorithms of AI. Furthermore, it will establish a Centre for Advanced AI to maximise the AI's value across clients and inside Accenture (Accenture 2023). This solid belief in AI's potential goes back a few years when Accenture Research estimated businesses that successfully implement AI might boost profits by 38% by 2035 (Accenture 2017).

Recently, Accenture has made crucial partnerships regarding Artificial Intelligence technology. The main goal of these alliances is to better understand, develop, and utilise AI to stay at the forefront of technological innovation and enhance their ability to provide creative AI solutions to their clients. It is important to note that most investments and alliances made by Accenture focus on Generative AI, as the company expects that, over the next decade, Gen AI will revolutionise 40% of all working hours (Accenture 2023).

In July 2023, ServiceNow and Accenture announced the AI Lighthouse, a tool designed to accelerate the development of corporate Generative AI capabilities. AI Lighthouse supports pioneering clients in creating, developing, and deploying new Generative AI use cases, leveraging existing key connections amongst ServiceNow, NVIDIA, and Accenture.

In September 2023, Accenture announced its collaboration with Amadeus and Microsoft to develop AI-powered layouts between its platform Cytric Easy and Microsoft 365. This

partnership is part of a broader objective to transform business travel while also guaranteeing that Generative AI solutions can be produced and distributed responsibly on a global scale.

These are only a handful of examples of what Accenture has been pursuing in terms of investments and partnerships; the firm has carried out multiple efforts to remain competitive and secure its strong positioning through powerful alliances and wise investments.

AI Applications and Impact

In the fast-paced world of global business, maintaining a position at the forefront of innovation and technology is a great achievement that few organisations can claim. Accenture is one such exception. The firm has exhibited an uncompromising dedication to staying ahead of the curve, particularly in the field of AI. Through research and several interviews, the main findings and initiatives that have moved Accenture to the forefront of AI-driven transformation will be addressed in this section, as well as its strategic and inventive use of Artificial Intelligence applications.

Accenture Global (comprehending all Accenture around the world) is especially focusing on its Generative AI experience, as it believes it can transform work across industries (Accenture 2023). The company is currently involved in multiple Gen AI projects, such as working with a large oil and gas company with vast amounts of data; Accenture is assisting the company in making this data more accessible with multi-modal data handling and the newest Generative AI advancements from Microsoft Azure OpenAI. Another example of an ongoing project is the creation of an AI platform with Spain's Ministry of Justice to simplify the justice system. More specifically, it seeks to streamline access to important information concerning judicial proceedings through the use of LLMs.

Also, the company is focusing on AI applications that help and empower its clients, thus launching the above-mentioned AI Navigator for Enterprise. Three use-case examples developed by Accenture will now be presented to demonstrate this client-centred approach:

MyWizard, developed in 2016, is an intelligent automation platform that combines the best of AI-driven technologies to rethink IT for workplaces. The platform provides clients with a comprehensive, intelligent automation approach and assists them in creating new value at each point of their automation journey (Accenture 2016). By 2020, the platform had already assisted Accenture MyWizard initiatives at 1,500 firms in improving customer experiences by more than 50% and lowering IT operational expenses by 60% (Accenture 2020).

The second application, SynOps, launched by Accenture in 2019, is an advanced operating engine that helps companies transform business operations while creating remarkable user experiences and delivering improved results (Accenture 2019). The platform enables Accenture to collect, analyse, and report data, derived from different sources, to deliver real-time insights into which parts of the client's business require improvement.

Finally, the most recent launch myNav is a tool that assists organisations in simulating several cloud solutions to select the ones that best meet their specific needs (Accenture 2019). “By providing a more informed view and a calibrated cloud strategy for business transformation, myNav helps clients compete more effectively,” said the group chief executive of Accenture Technology Services. In terms of benefits, Accenture can leverage MyNav’s ample experience obtained from several cloud engagements to assist organisations in accelerating their cloud journey. MyNav’s value-focused transformation also delivers tangible benefits: it offers up to 30% savings from faster business cases and up to 30% savings from continuous cost optimisation.

Turning to Accenture Portugal, this fraction of Accenture is taking big steps towards Artificial Intelligence, according to the interviews. Workers reported that AI is being implemented rapidly and efficiently, particularly in areas of business transformation where innovation is a focus. One of the respondents noted that AI has been integrated at a good pace but with a much greater focus on Operations than on Consultancy.

Through the research conducted, it was possible to learn that Accenture owns an AI Store, located in Porto, dedicated to sustainable innovation through the application of AI. Additionally, Accenture's Lisbon Intelligent Operations Center has over 2,000 people dedicated to applying innovation and industry experience, together with new IT and skills to drive intelligent operations (Accenture 2023), confirming that Accenture Portugal is starting its AI focus first on Operations. There is currently a huge focus on automating routine tasks and developing chatbots, which workers can use to ask questions or to clarify operational-level curiosities, according to one interviewee. The impact of these improvements in the operations sector is recognised by the workers, as they mentioned that it greatly minimises inefficiency, increases responsiveness, and reduces response time.

Within the area of consultancy, a crucial AI use-case in Accenture is in the research phase, as employees use the technology to understand and summarise the current situation of a client, the “As-Is”. To find out what the client's current situation is concerning a certain topic, the team has to interview various stakeholders. Afterwards, they use Artificial Intelligence to compile all the results and summarise the insights in a much quicker way. It has become a tool for quickly understanding a situation and its consequent needs.

Inside this process, workers also use a tool called KX, the company's intellectual capital publication and sharing system, which serves as a primary information access point for workers. Another AI use-case was clarified by employees regarding this tool, as they stated there was a recent feature on KX - a feature to summarise what is inside its documents and to answer questions regarding the documents. Improving this system through AI, as one analyst mentioned, brings advantages such as easier knowledge retrieval and improved employee satisfaction. From a financial impact view, it yields benefits by cutting resources, as it may slim down the structure by automating parts of the process and speeding up operations.

Later on, in a benchmarking phase, employees relate that they use Artificial Intelligence, for instance, to analyse all the clients that are dealing with the same addressed topic, to understand how many companies on the market already have solutions for the problem, or even to discover the most effective techniques to outperform competition.

The aforementioned AI applications also have indirect impacts by effectively automating time-consuming tasks, thereby freeing workers to focus on other types of work. For instance, one analyst interviewed stated that AI assists him at the beginning of the process, as he can make decisions much faster, without having to debate so much. Therefore, it can save a few hours of research and thinking. It can help workers speed up and find the points where they want to focus on. Furthermore, an Accenture consultant mentioned that it is easier to come up with more different ideas than she would have on her own, without AI tools. Moreover, respondents claimed that they regard AI as a support for taking action, as decisions are no longer reliant on gut instinct, but rather on mechanisms that support the decision.

After working together with the client to examine the situation and develop action plans to implement each recommendation, the implementation stage occurs. According to the Accenture interviewees, in the implementation phase, AI is still an approach that is rarely employed. However, when it comes to monitoring the results of a certain implementation, Artificial Intelligence tools come in handy once more. During this phase, consultants must monitor key performance indicators, assess the impact of recommendations, and verify that the project is on course for success. The AI-powered tools can continuously gather and analyse data from numerous sources, allowing consultants to focus on high-value tasks, such as interpreting results and providing accurate suggestions to clients. According to one analyst, it also helps employees to have an aggregated view of the results, and to predict consumer reactions to the solution that they have just implemented, demonstrating the benefit of keeping track of results more easily.

Another significant advantage generated by Artificial Intelligence in these use cases is the increased level of autonomy that it provides: if a worker has doubts, the AI tools can help. Thus, now an analyst no longer has to reach out to a consultant or manager so often to deal with a certain topic. As an Accenture analyst mentioned, workers don't need to have technical knowledge as they can quickly gain it through AI. Therefore, it may have reduced the dependence that exists between the different hierarchies of the project, and ultimately increased the quality of each deliverable, as their deliverables might now have a greater depth of thought and technique.

Moreover, workers claim that the level of personalisation and quality of the service has increased substantially, as AI allows accessing information that is much more data-driven and validated. A few years ago, consultancy was based on the experience of consultants and a history of decisions they had made. Now that history is available to everyone through these tools. Thus, it allows employees to make much more informed decisions based on data rather than mere experience, according to one respondent. The fact that employees can analyse different formats and types of data also empowers them to customise the type of solutions and recommendations they present to the customer. At the same time, delivery times can be accelerated. An example given was “If you have three weeks of interviews and you need a week to collect the results, maybe with these tools you don't need so much time anymore.”

Regarding the “consultancy tabu”, ChatGPT, a respondent noted that this tool is truly useful in daily tasks, while another employee agreed that people just have to assume that it exists and take advantage of it, as with any disruption. The key is understanding how to use it to be beneficial. It might help interpret the big picture and understand the main frameworks used to analyse a topic. Essentially, this tool helps to speed up research and trend identification time, while giving employees more time to devote to other critical tasks. Thus, it is seen as a positive accelerator by workers if used in the right way.

In conclusion, Accenture's strategic initiatives, highlighted by a global focus on Generative AI and the launch of revolutionary applications such as MyWizard, SynOps, and myNav, illustrate the company's key position in maximising AI's potential. While Accenture Global leads the charge with its vast AI initiatives, Accenture Portugal's insights reflect a dynamic AI implementation with a strong emphasis on Operations. Moreover, Accenture's usage of AI applications crosses multiple aspects of its Consultancy services, from the research phase, where AI is now used in KX, to the benchmarking phase, where AI supports market analysis. The use of AI tools not only improves efficiency by automating common operations but also allows for a more data-driven and validated approach to decision-making.

AI Gaps and Recommendations

The journey towards AI implementation is not without its challenges, and one critical aspect often overlooked is the identification and addressing of Artificial Intelligence gaps within a company, in this case, Accenture. The question of what the company should do better to successfully address these gaps will now be explored, with a set of recommendations meant to guide Accenture towards a more robust AI implementation.

The first emerging gap concerns the question “Does Accenture have any guidelines to guarantee AI transparency?”, to which an interviewee answered “From my perspective, I don't think so. If they exist, they passed me by.” On the other hand, several other interviewees stated the opposite: clear transparency guidelines in Accenture exist. It brings to light a significant gap in the company's approach to communicating these guidelines. The first declaration emphasises the need to guarantee they are accessible and well-understood by all stakeholders. This can be accomplished by bringing in different stakeholders to the conversation regarding transparency guidelines, ensuring that several viewpoints are considered. It can increase the possibility that they will be accessible and well-understood by a broader variety of people, enabling greater communication and adherence to the guidelines (Trovato 2023).

In terms of skills and training needed to deal with Artificial Intelligence, another gap was identified. Respondents stated there is technical training regarding AI models and impact, for them to understand how AI can fit in with the business, but there is no type of training in its usage, in its practical terms. Also, an Accenture consultant stated that a more practical course could be beneficial, as workers are sometimes thrown to the lions and must learn on their own as the project proceeds. The interviewees' experiences highlight a notable gap in the company's approach to AI skill development, due to a lack of practical usage training. This gap poses the risk of employees utilising AI inappropriately or ineffectively, as they may not fully understand the practical applications of AI. To fill this void, Accenture should consider creating extensive practical AI training programmes. These programmes could concentrate on how AI can be used effectively in various work functions, emphasising both its practical benefits and potential drawbacks. The company can bridge the knowledge gap by giving such training, ensuring that employees are learning practical techniques that may be applied in their work context (Beard 2023).

Regarding the availability of internal instruments, the respondents' statements suggest a considerable gap regarding Accenture's toolset, particularly in the absence of an internal tool comparable to ChatGPT. Because there is no matching in-house solution for text production and analysis, ChatGPT has been mainly used by employees as mentioned above. This reliance on third-party solutions raises trustworthiness and privacy risks that must be addressed. As an analyst mentioned, if that Accenture tool existed, she would use it on an analytical basis, as she would have a higher degree of confidence in a tool with verified and trustworthy information. Therefore, Accenture should explore constructing an in-house language model-based chatbot solution, such as ChatGPT, that fulfils the specific objectives and security criteria to bridge this gap. Accenture might not only improve the speed of its analytical processes by developing such a tool, but it might also assure data privacy and security (Duchaine 2023), allowing employees

to input confidential data without concern. Employees would be able to operate confidently with a tool adapted to their needs, reducing the demand for external solutions. Many other consulting companies, including competitors such as KPMG with the “KymChat” tool and McKinsey & Company with “Lilli”, are already actively developing and utilising these in-house solutions, characterised as their “Private ChatGPT software” (KPMG 2023).

Given the aforementioned recommendations, it is important to consider that these suggestions are solely a result of literature research and internal debates, and as such, they may lack deeper knowledge of professionals in this subject.

Challenges within Accenture

In the pursuit of innovation and excellence, every consulting organisation faces several obstacles that necessitate creative answers. To address it, this chapter analyses some of the challenges that Accenture encounters when implementing AI, according to its employees.

The interviews revealed that one of the most relevant challenges was the difficulty of implementing Artificial Intelligence in a scalable way. Companies do several pilot projects to explore how they may apply AI in their processes, but these projects are often limited to a specific scenario, and so are not introduced into the business process on a large scale, according to a consultant. Thus, the major problem is transitioning from pilot projects to modifying the company's procedures to embrace the technology in a scalable manner. To solve it, Accenture could look into the insights from pilot projects and prioritise the most impactful AI applications with the ability to deliver value and efficiency at scale. Afterwards, the company should standardise AI gradually to avoid inefficiencies of techniques (Harvard Business Review 2022).

Another significant consulting challenge mentioned was the lack of a real-time feedback loop for AI algorithms. Implementing the algorithm is not a one-time task with fixed criteria, thresholds, and weights; instead, it requires an ongoing process of introducing feedback and making adjustments to align with the specific reality, as emphasised by one respondent.

Oftentimes, companies develop an algorithm at a particular juncture, but they fail to alter the criteria for the decision. The clear solution is to design a feedback loop that regularly feeds current data into the AI model to maintain it aligned with changing realities, allowing data quality and user adoption to build up (McKinsey & Company 2021).

Overcoming Challenges

Despite the challenges described above, Accenture has successfully overcome several others. These include both general AI and industry-specific barriers, as identified in the chapters "Overall Challenges of AI" and "Challenges and Risks of AI Adoption in the Consulting Industry". Thus, an investigation of how Accenture addresses this varied range of challenges both in a general framework and within the specific Consulting sector will now be undertaken. Regarding overall challenges to AI adoption, the most common one earlier mentioned is the absence of a well-defined AI strategy. In this matter, Accenture's report "Ready. Set. Scale" states that identifying real value begins with recognising what is truly crucial to the company and aligning the AI agenda to superior strategic plans. Accenture may consider 300 potential AI applications as a starting point; however, they cannot all be equally aligned with the business strategy; consequently, the organisation applies a clear framework to prioritise AI use cases.

Moreover, a crucial challenge in this area is safeguarding employee and client data, crucial to maintaining trust and complying with regulations. According to an interviewee, clients are always concerned about security and confidentiality, thus tackling this area is critical. Accenture's report "Information Security Overview 2023" shows that protecting client data is a top business priority employed through its global Client Data Protection (CDP) program. The output of the interviews showed the same level of data safeguarding, as employees noted the existence of responsible AI compulsory training.

Looking at employees, the fear of job displacement is a common concern regarding AI, as task automation can lead to unemployment. Accenture, by implementing various strategies to reskill and upskill its workforce through its "Solutions.AI for Talent & Skilling" initiative, helps employees develop new capabilities and enables them to adapt to the changing nature of work. Continuous learning allows firms to diversify their workforce's abilities and ensure that their employees not only stay relevant but also grow as an outcome of change (Accenture 2023).

This Talent & Skilling initiative also addresses the challenge of dealing with the employees' possible scepticism and resistance, due to the complexity of Artificial Intelligence. Through the program, workers may understand how AI can help them take advantage of the evolving circumstances. This education can help to demystify AI and minimise scepticism.

Moving on to area-specific consulting challenges, the first one identified was AI's inability to understand the complexity of human behaviour, failing to incorporate emotional or social variables that influence decisions and ending up making wrong decisions. This barrier has been tackled by Accenture through the usage of a combination of human work and Artificial Intelligence: individuals use the AI tools only as assistance for their work rather than trusting entirely in what they provide. The key is to understand how this tool can complement their work, as an analyst stated. In such a manner, all final decisions are approved by the workers, thus the emotional and social variables that AI may disregard are still incorporated.

As AI-based solutions become more widely available, there is the possibility of witnessing a large decline in the client's willingness to pay for these solutions. As one interviewee mentioned, as clients know they have new tools to solve certain matters, they will increasingly want a better, faster, more efficient, and personalised experience. To answer this problem, Accenture focuses on delivering the highest value among competitors by constantly improving its AI-based personalised products to guarantee they not only meet but outweigh clients' shifting demands and expectations. "Our expanded Data & AI practices bring together the full power of Accenture

in creating industry-specific solutions that will help our clients harness AI's potential to reshape their strategy, technology and ways of working," as mentioned by the group chief executive of Accenture Technology. Thus, this commitment to delivering exceptional value allows Accenture to provide tailored, high-impact AI solutions justifying its clients' investment.

Finally, this new field of AI is forcing consulting firms to adapt their business model, as their current model is being disrupted. This disruption, according to Accenture, is not frightening, but rather a driver of positive change. The Accenture report "Disruption need not be an Enigma" shows how the company sees disruption as an understandable and predictable pattern. The fact that the business is forced to adapt its business model is seen by Accenture as an opportunity to positively adapt its strategy (Accenture 2018).

Conclusion

Accenture's significant investments in the field of AI are one of its standout characteristics. These investments are not merely monetary but extend to key established partnerships, such as collaborating with Microsoft, to better understand and develop AI technologies, allowing the company to maintain a leadership position in technological innovation.

Accenture's approach to AI applications is primarily centred on empowering its clients. Notable platforms such as myNav and SynOps demonstrate the company's commitment to improving client services. Initially, AI development in the organisation is more focused on the Operations field, providing tangible advantages and ensuring a quick return on investment.

Within the domain of Consulting, Accenture has integrated AI applications at multiple stages, including the research phase, benchmarking, and monitoring. These implementations have resulted in beneficial outcomes such as increased worker autonomy, resource efficiency, reduced processing time, enhanced personalisation of services, and data-driven insights.

Despite these advancements, Accenture faces certain gaps and challenges. Notable gaps include the lack of articulated transparency norms, the unavailability of practical AI training,

and the absence of an internal instrument such as ChatGPT (which other companies already have). Moreover, challenges do exist, yet Accenture is skilled at navigating them. The company successfully meets challenges such as developing a solid AI strategy, ensuring data security, and maintaining a positive relationship with employees, particularly regarding unemployment concerns. Yet some obstacles, such as implementing AI in a scalable way and lack of a feedback loop for AI algorithms, remain areas of exploration.

In conclusion, Accenture has adopted AI technologies, strategically positioning itself as one of the industry leaders. The company's commitment to innovation, client-centric applications, and adaptability to challenges demonstrates its dedication to maximising AI potential. As the company is addressing existing challenges and tackling emerging gaps, it remains well-positioned for continued growth in this field of Artificial Intelligence technology.

Group Part

Cross-industry Patterns - Comparative Analysis

In this chapter, the objective is to undertake a comprehensive cross-industry analysis of the organisations' strategies, challenges, and opportunities, along with providing a comparative analysis of how AI adoption is progressing inside the featured firms. By bridging the gap between these industries, this dissertation hopes to facilitate the exchange of valuable insights and foster a collaborative mindset as a way to augment the adoption and efficacy of AI practices.

Methodology

The approach used for this cross-industry analysis focused on eight critical parameters that were considered to be essential to understanding the adoption of AI in the featured companies. These parameters - AI Investments, AI Adoption Rate, AI Ethical Compliance and Data Privacy, AI Strategic Alignment, AI Transparency Level, AI Training, AI Talent, and Technological Novelty - were carefully selected as, according to research, they are among those that contribute to a successful adoption of AI. Such factors cover whether the companies have AI initiatives that are in line with desired business results (Omeyer 2023), are hiring and developing skilled employees and teams (IBM 2020) and establishing transparent policies and data security safeguards (Vaghashia 2023), among other key to success elements discovered during the research process.

Additionally, these are the parameters that were commonly discussed in the conducted interviews. Through the selection of parameters that are emphasised in the literature and, at the same time, highlighted in the interviews, this analysis is driven by both theoretical frameworks and practical experiences. Nevertheless, it is crucial to recognise that while these parameters provide a solid foundation, they might not cover all aspects of a complex AI adoption.

Therefore, the chosen parameters in the analysis should be viewed as representative rather than fully comprehensive in capturing the entirety of each AI implementation.

The methodology chosen to assign each organisation a score (from 1 to 5) for each parameter required a detailed qualitative assessment based on a combination of criteria. Firstly, an analysis of publicly available information, such as papers, news, and financial reports regarding the companies under consideration. Additionally, insights obtained from the interviews also played a significant role in assisting the scoring process. Therefore, the scores assigned were the result of a careful assessment, discussions among the authors, and benchmarking, guaranteeing a contextualised study of the businesses' implementation of AI. For this purpose, the cross-industry comparison scoring stipulated by the authors is explicitly represented in Figure 6.

Analysis

The parameter AI Investments represents the organisations' financial commitment to integrate AI into their operations. The investments incurred by Accenture and KPMG were quite similar. In 2023, Accenture announced a $3 billion investment in its Data & AI and KPMG a partnership with Microsoft worth $2 billion. These two investments translate the dimension of these two companies within the Consulting industry and are two clear representatives of the power the Consulting companies may hold. Additionally, Mercer may not be considered to be running at the same pace as the two consulting firms but has made strong efforts in the integration of AI within its operations. The major difference is that Mercer does not hold the same purchasing power as Accenture or KPMG, so it cannot be considered at the same level. Instead, Mercer developed many of their AI tools in-house, without needing to establish partnerships or outsource many of their AI platforms or instruments. On the other hand, Banco de Portugal is still far behind due to its conservative and prudent approach, not only because

of its internal structure and organisation but also due to legal reasons, which can create a significant barrier when investing in AI.

Moreover, it is pertinent to strike a middle path between the corporation's actual use of AI tools and their availability. The AI Adoption Rate KPI assesses how well AI tools are daily incorporated into the employees' operations. Accenture, KPMG, and Mercer exhibit comparable postures in the adoption of AI, distinguished by their dedication to customising AI solutions to satisfy the distinct requirements of diverse departments. Notably, KPMG has created its own proprietary ChatGPT technology, although Accenture and Mercer both use ChatGPT in their day-to-day business operations. Their proactive strategy demonstrates their commitment to realising the revolutionary potential of AI. Banco de Portugal lags behind these sector leaders, but there are a few departments within the bank that use AI tools, which for a Central Bank represents a significant step forward towards a future of AI integration within their activities. This disparity emphasises how important corporate culture and incentives are in determining how AI adoption turns out, although the industry setting is the most significant factor.

Ensuring Ethical Compliance and Data Privacy in Artificial Intelligence entails adhering to moral norms, which includes protecting sensitive information from unauthorised access or manipulation, as well as maintaining data security and integrity. The achievement of ethical compliance poses significant challenges, especially during the early stages of AI adoption and implementation. Banco de Portugal takes a leading role, as the institution prioritises information sensitivity through the implementation of robust procedures, stringent compliance measures, and a proactive stance towards AI-related threats. This underscores a distinct commitment to data privacy and security, thus a score of 5 was assigned by the authors. Following closely behind, Mercer, Accenture, and KPMG each assigned with 4-point rating. Mercer addresses ethical concerns in AI through initiatives such as pre-access training, bias

detection methods, and a focus on responsible use. Notably, Mercer places special emphasis on mitigating user concerns related to AI-generated content, aligning with a user-centric ethical framework. Accenture, recognised for its elevated commitment level, emphasises ethical AI deployment by prioritising justice and accountability and implementing rigorous data protection measures, including encryption and regulatory compliance. KPMG's strategic collaboration with Microsoft establishes a foundation for secure platforms prioritising data privacy. However, KPMG's ethical rating is compromised due to lingering challenges in addressing unconscious biases in AI tools. Overall, the assigned rankings demonstrate a shared dedication to ethical compliance and data protection in the environment of AI adoption.

Strategic Alignment refers to the process of structuring a company and allocating resources in a way that supports a given strategy, in this case, AI adoption. In this respect, it is evident from Figure 6 that all of the institutions have solid internal processes in place that underpin their respective AI strategies. Accenture and Mercer were considered to be the most successful in this regard (5 points): Accenture mobilises its resources to place AI as the centerpiece of its fundamental pillar in creating value for all stakeholders through its strong focus on technology services. In the same way, Mercer's prioritisation of its core strategy of democratising AI across all employees is reinforced by large projects directed by highly specialised teams, which have a direct impact across the entirety of its activities. KPMG and Banco de Portugal also place great emphasis on aligning AI in their long-term strategies but not to the same degree as the previously mentioned companies (4 points). KPMG for instance has not yet implemented a system capable of measuring the impact of its AI practices, a vital element that ensures a solid AI strategy. Banco de Portugal, although focused on increasing its technological capacity through the use of AI, has a primary mission to ensure price stability. In this context, not every department is fully committed to leveraging AI to fulfil this mission.

Transparency in AI adoption involves openly discussing and disclosing information regarding AI rules, methods, and decision-making processes. Banco de Portugal emerged as a leader in this realm, assigned with the highest possible feeby the authors. They employ a transparent SupTech solution for automated credit checks, prioritising compliance, and security. Mercer also excels in transparency reaching a 5 points rating. The company actively maintains transparency by subjecting its AI model, LenAI, to rigorous reviews. Additionally, it utilises methods like bias audits and content review with another AI model to augment transparency and instil confidence. KPMG, while suggesting transparency, has room for improvement. Establishing a specialised AI/ML unit with clear Key Performance Indicators (KPIs) could enhance their transparency efforts, as well as improve communication. Accenture, on the other hand, was assigned 3 points by the authors: While they implement transparency guidelines, these are not explicitly communicated to all stakeholders, indicating potential communication gaps. Overall, fostering increased openness is imperative for the ethical deployment of AI.

AI Training in companies involves educating and preparing employees to understand, apply, and utilise Artificial Intelligence. This training initiative seeks to provide employees with the understanding and competences needed to employ AI for the benefit of the business. All four companies acknowledge the importance of AI training for their workforce. However, a few differences have been identified. Accenture insights particularly identified a need for practical usage training, whereas KPMG, Banco de Portugal, and Mercer insights highlighted the development of training programmes that stress hands-on experience with each tool's capabilities over academic understanding. For instance, Banco de Portugal provides an online portal that allows workers to browse constantly updated internal training alternatives, sign up for courses, and request training with external organisations. Other extensive training programmes, including workshops, are developed by Mercer and KPMG to improve employees' AI capabilities. Nonetheless, while Accenture lags due to a perceived lack of

training by its employees (3 points assigned), the other firms continue to hold the capability to advance (4 points). Taking into account the continuously developing nature of this industry, adequate and up-to-date training in AI technology is never enough, thus businesses must always ensure their employees have the necessary abilities to succeed.

The AI Talent parameter encompasses two critical aspects: firstly, having a workforce with specialised skills in the field of AI, including data scientists and AI specialists; and secondly, guaranteeing that all workers are willing to embrace the transformative journey of AI. This talent pool is critical for remaining competitive in the industries covered in this thesis.

Figure 6 shows that, according to the authors, Accenture and Mercer outperform this indicator. Both organisations employ AI-interested and motivated individuals while offering various initiatives to assist employees in adapting to the changing nature of their industries, such as Accenture's "Solutions.AI for Talent & Skilling" project. Furthermore, as previously stated, Accenture intends to grow its AI team to 80,000 individuals, while Mercer has specialised teams such as Mercer Digital. KPMG, on the other hand, revealed not having a team dedicated to dealing with AI (3 points). Even though its employees are ready to accept the AI-changing nature, no team has been formed to focus on it.

Due to the large representation of older technicians and managers with lower technological skills, Banco de Portugal is at the bottom of the ranking (assigned with 2 points). Because these employees may be more hesitant to accept full-scale innovation, quick AI adoption may be compromised. While every company recognises the importance of AI talent, the variance in rankings and strategies illustrates the different degrees of preparedness.

Finally, Technological Novelty refers to the level of advanced technology that is currently in use in each organisation. From Figure 6 it is possible to derive that apart from Banco de Portugal (2 points assigned), all other firms possess relatively advanced technology at their disposal (4 points). This is mainly due to the nature of the consultancy companies that

specialise in providing services to clients. In contrast, Banco de Portugal, being the main supervisory authority in Portugal, carries a greater degree of responsibility. Thus, regarding regulation and compliance, it is much more restricted when it comes to the level of advanced AI it can employ. For instance, consultancy companies already use Gen AI not solely to aid their clients finer but also to boost internal operational processes. However, it is essential tp understand that most state-of-the-art technologies are employed through strategic partnerships, namely from tech giants like Microsoft and OpenAI. However, this advantage comes at the cost of a certain dependency on these cutting-edge companies. For this reason, a level of technological novelty of 4 points was considered the most appropriate by the authors. Conversely, Banco de Portugal is lagging in this domain given that, at present, Gen AI has not been implemented. Most AI solutions are developed in-house instead of being outsourced, due to security reasons. This limits the innovative potential of its solutions.

In essence, the comparative analysis of AI adoption represented in Figure 6 highlights the distinct approaches across the four featured companies. One notable aspect is the substantial AI investments made by Accenture and KPMG, reflecting their industry influence, while Mercer demonstrates a higher commitment to in-house AI development and Banco de Portugal is more constrained by conservatism and legal considerations. The AI adoption rates highlight a commonality among Accenture, KPMG, and Mercer, emphasising the customisation of AI solutions to meet diverse departmental needs. Despite lagging, Banco de Portugal showcases slow but steady progress.

Ethical compliance emerges as a critical factor, as all companies demonstrate strong commitments to ethical AI use, implementing measures to ensure responsible use and overcoming biases, especially in Banco de Portugal. Moreover, the four companies place significant value on strategic AI alignment, making it a fundamental pillar of their strategy. Transparency in AI deployment is also critical, with Banco de Portugal and Mercer leading the

way. Despite implementing transparency guidelines, Accenture and KPMG may need to improve certain transparency components. Furthermore, although AI training is a metric that can be improved in all firms, it is considered as a highest primacy by all of them. The AI talent parameter positions Accenture and Mercer as leaders in this topic, whereas KPMG and Banco de Portugal face some challenges, such as lacking a dedicated AI team. Finally, technological novelty is examined: consultancy firms leveraging advanced technology through strategic partnerships highlight a potential road for collaboration between industries.

Looking forward, the featured industries could further explore cooperative initiatives to unlock unexplored opportunities. For instance, the methodology and goals of Accenture and KPMG, which have excelled in significant AI investments, could encourage Mercer to investigate other funding models or Banco de Portugal to see the benefits of doing so. Mercer's commitment to in-house development, in turn, may inspire others to consider boosting their AI capabilities through more proprietary solutions. Conversely, Banco de Portugal's leadership in ethical compliance and extensive procedures can offer valuable insights for Mercer, Accenture, and KPMG to improve their ethical frameworks.

Fostering a culture of shared experiences and best practices in the rising AI landscape can lead to collective industry growth, addressing common challenges and seeking innovative routes. The economy as a whole may evolve more dynamically by taking advantage of each company's strengths and learning from their distinct approaches. Overall, the analysis suggests that, while the four firms are currently making remarkable progress in AI adoption, there is still untapped potential that can be unleashed through cross-industry collaboration. Implementing a synergetic mindset benefits not only these specific companies and industries but also establishes foundations for a more robust AI ecosystem on a larger scale.

Final Conclusions

The growth of Artificial Intelligence in the past few years has positioned itself as a disruptive force in business. However, a notable gap in the literature is the lack of comparative analysis across industries, making it difficult to identify common patterns, best practices, and lessons applicable globally. Given this gap, answering the research question “How Does Artificial Intelligence Adoption Differ Across The Consulting, Banking And Human Resources Sectors?” is critical and acted as this thesis's focal point. The examination of AI adoption across the highlighted industries concludes that there is a considerable difference in the organisations' strategic approaches, investment levels, and operational adjustments to AI technology.

The overall research made on AI integration across diverse industries reveals a context marked by both transformative potential and significant challenges. Consulting companies, such as PwC, EY, and McKinsey, are rapidly adopting AI technologies to obtain a fierce edge. The promise of AI in Banking is significant, but the sector confronts challenges such as limited infrastructure and a possible employee aversion to AI. Human Resources exhibits substantial advances in AI applications, with major players such as IBM and Oracle leveraging AI to accelerate talent acquisition and employee engagement. Overall, AI integration presents a variety of trials and triumphs, necessitating collaborative efforts and proactive solutions.

Beyond the preliminary research, each individual section draws findings about the specific industries. In the Consulting sector, Accenture stands out for its strategic investments, key partnerships, and client-centric AI applications that emphasise innovation and adaptability. The focus on empowering clients, especially in Operations, offers more tangible advantages. KPMG Portugal, within the Consulting and Auditing domain, highlights the transformative influence of AI on operational frameworks, showing improvements in productivity through technologies such as K-City and KymChat. The firm has integrated AI technologies into audit, tax, and consultancy tasks, increasing accuracy. Consequently, through these leaders in the

field, the Consulting industry demonstrates the potential to integrate AI on a wide scale by investing heavily in the technology.

In contrast, Banco de Portugal, representing the Banking industry, takes a cautious strategy that prioritises stability, and information security through strict regulatory compliance. This national supervisory authority uses AI mainly to improve process efficiency. Despite apparent investments and beneficial impacts on business units, AI adoption is slowed by rigid security norms, an elderly workforce, and inefficiencies in outsourcing. In terms of ethical compliance, Banking ranks first and sets the bar for the other fields analysed. This caution, driven by legislative constraints, shows the influence of industry-specific components on AI integration.

The Human Resources industry, represented by Mercer, emphasises operational efficiency and innovation. Moreover, with a focus on internal AI development, Mercer is a prime example of a creative and tailored approach to AI that adapts to its operational objectives and budgetary constraints. The company focuses on democratising AI and addressing workforce qualifications, establishing a standard for responsible and meaningful integration.

Finally, to conduct a fair cross-comparison analysis, the last chapter conducted an in-depth study of eight key variables to determine how these organisations are navigating the landscape of AI integration. By examining each organisation using these criteria, a deeper learning emerged, allowing for a more objective judgement of their efforts.

In summary, the findings indicate that Consulting prioritises efficiency and client solutions, whereas Banking proceeds carefully with a focus on compliance, and HR stands out for strategic AI integration available to all employees.

According to this chapter's analysis, even though every organisation is efficiently adopting AI at its pace, there is still a lot of unrealised potential that may be reached by collaborating across industries. For example, HR entities' dedication to in-house development may motivate others to consider expanding their AI capabilities through similar exclusive solutions. In contrast, the

Banking leadership in ethical compliance can provide significant insights to others. Such initiatives could lead to collective industry growth, address common difficulties, and pave the way for innovative solutions.

In the current context of technological evolution, collaboration amongst major players such as Accenture, KPMG, Banco de Portugal, and Mercer is key to achieving the full potential of AI. As they exchange insights and tactics, the synergy of collective intelligence boosts an entire network towards a future where innovation knows no bounds.

Limitations

The goal of this section is to outline the parameters that our findings fall inside and the consequent limitations of the study.

The first limitation is derived from the fact that the four companies under examination do not fully represent their whole industries. While the study's research question, “How does Artificial Intelligence adoption differ across the Consulting, Banking, and Human Resources sectors?” suggests a broad analysis, it is critical to recognise its inherent limitation in scope. Given that the study focuses on four sample organisations within the specified sectors, the findings may not fully represent the landscape of the Consulting, Banking, and Human Resources industries. Readers must recognise the scope of this study as a concentrated assessment of select industry players rather than an in-depth representation of the whole sector.

Another constraint arises from the geographical bias in the interviews. Notably, our methodology exhibited variability across the companies under consideration. Mercer, for instance, was subject to a comprehensive global investigation due to a scarcity of insights obtained exclusively from a Portuguese viewpoint. On the other hand, Banco de Portugal's analysis is confined to a domestic scope, given the company's exclusive operations within Portugal. Regarding Accenture and KPMG, while their investments and partnerships were examined on a global scale, the analysis of their applications and impact remained primarily

centred on the Portuguese context. These intricacies emphasise the importance of contextual awareness when interpreting our findings and recommendations.

The third constraint of the study is related to the relatively small number of employees that were interviewed. While using a survey may have yielded a more substantial sample size, the choice to utilise in-depth interviews was deliberated as it was intended to gather personal insights and detailed justifications that might have been overlooked in a broader survey. Thus, the sample size limitations and the possibility that the results do not fully represent general perspectives should be considered. Furthermore, certain sensitive data concerning investments, partnerships, technologies implemented, and other confidential information have been omitted in compliance with the companies' privacy requirements.

Moreover, the nature of the recommendations given in the paper poses a constraint. While the four of us were engaged in collaborative discussions to address the current gaps and challenges in the studied companies, the absence of external expert consultation should be acknowledged. As a result, the recommendations presented are an outcome of internal discussions, and as such, they may lack the deep insights that experts in this field could offer.

Within the context of the cross-comparison analysis presented, it is crucial to recognise three inherent restrictions that influence the comprehensiveness of our findings. First, while the parameters were carefully chosen based on recent research and perspectives from the interviewees, they might not fully capture the complexity of the AI adoption environment. Second, as interpretations may vary across researchers, the qualitative aspect of the assessment adds an intrinsic degree of subjectivity. While offering an organised method, the usage of a scoring system still depends on subjective decisions and benchmarking discussions, which raises the possibility of bias. Finally, the analysis only represents a single point in time due to the dynamic changes that occur within organisations and the nature of AI. As Artificial Intelligence evolves, companies might experience changes that are not captured in our analysis.

Given that the analysis could not have captured all the aspects of the organisations' AI adoption journeys, these limitations highlight the need for a cautious interpretation of the results.

Future Work

This chapter serves as a guide for potential new research that can complement our study's scope. We aim to encourage future researchers to build upon the foundations laid throughout the preceding chapters, not only potentially deepening the knowledge around the topic but also extending the scope and broadening the discussion.

Additional investigation might look into how the aforementioned synergies could be put into action. One possible approach is to form cross-disciplinary teams, bringing together experts with broad experience from each field and ensuring that cross-industry collaborations open up untapped potential. Also, another path could be creating collaborative platforms, workshops, or conferences that promote knowledge exchange, as knowledge-sharing is an essential activity for the exchange of expertise, skills, or information among various stakeholders such as individuals, communities, or organisations (Mathrani and Edwards 2020).

Moreover, further studies could address how AI is reshaping other industries that were not explored in this dissertation. For instance, AI is speeding up the energy transition in several domains including renewable energy forecasting and grid operations and optimisation, just to name a few. This technology, which has been little explored, can be deployed at scale faster than hardware infrastructures (World Economic Forum 2022). In retail, one could explore how Artificial Intelligence provides businesses with an edge over competitors. Automating repetitive tasks and optimising supply chains by monitoring the stock level are some of the potential use cases, which ultimately reduce costs and increase profitability (World Economic Forum 2023). Regarding healthcare, it is expected that by 2030, AI algorithms will be capable of detecting and anticipating diseases and suggesting preventive measures. Furthermore,

reduced waiting times and more streamlined staff workflows are other benefits that AI brings to the table (World Economic Forum 2020).

Finally, another relevant future research direction to explore could be further AI-related technologies such as Peer-to-Peer Networks (P2P) like Blockchain, Virtual Agents in the spectrum of conversational AI, Decision Management, and many more.

To conclude, it is evident that the number of topics to explore is almost limitless. Considering this, our thesis aims to spike curiosity among scholars by urging them to recognise this urgent theme that is profoundly shaping the business landscape.

References

Abbott, Michael. 2023. “What Generative AI Means For Banking.” Forbes. May 8, 2023. https://www.forbes.com/sites/michaelabbott/2023/05/08/what-generative-ai-means-for-banking/?sh=5580748146c9

Accenture. 2023. “The art of AI maturity.” August 9, 2023. https://www.accenture.com/us-en/insights/artificial-intelligence/ai-maturity-and-transformation?c=acn_glb_aimaturityfrompmediarelations_13124019&n=mrl_0622

“AI in Human Resources - The Time Is Now.” 2018. Oracle. https://www.oracle.com/a/ocom/docs/applications/hcm/oracle-ai-in-hr-wp.pdf

“AI Providers Will Increasingly Compete with Management Consultancies.” The Economist, April 3, 2018. https://www.economist.com/special-report/2018/03/28/ai-providers-will-increasingly-compete-with-management-consultancies

Akerkar, Rajendra. 2019. Artificial Intelligence for Business. SpringerBriefs in Business. https://doi.org/10.1007/978-3-319-97436-1

Amar, Jorge, Sohrab Rahimi, Zachary Surak, and Nicolai Von Bismarck. 2022. “AI-Driven Operations Forecasting in Data-Light Environments.” McKinsey & Company. February 15, 2022. https://www.mckinsey.com/capabilities/operations/our-insights/ai-driven-operations-forecasting-in-data-light-environments

Anderson, Marian. 2023. “The Use of Artificial Intelligence in Cybersecurity: A Review.” IEEE Computer Society. July 10, 2023. https://www.computer.org/publications/tech-news/trends/the-use-of-artificial-intelligence-in-cybersecurity

"Applying Machine Learning in Capital Markets: Pricing, Valuation Adjustments, and Market Risk." 2020. McKinsey & Company. October 29, 2020. https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/applying-machine-learning-in-capital-markets-pricing-valuation-adjustments-and-market-risk

"Artificial Intelligence and Responsible Business Conduct." 2019. OECD. https://mneguidelines.oecd.org/RBC-and-artificial-intelligence.pdf

"Artificial Intelligence Market Size, Share & Trends Analysis Report By Solution, By Technology (Deep Learning, Machine Learning), By End-Use, By Region, And Segment Forecasts, 2023 - 2030." n.d. https://www.grandviewresearch.com/industry-analysis/artificial-intelligence-ai-market

Aziz, Saqib, and Michael Dowling. 2018. "AI and Machine Learning for Risk Management." Social Science Research Network, January. https://doi.org/10.2139/ssrn.3201337

Bao, Yang, Gilles Hilary, and Bin Ke. 2022. "Artificial Intelligence and Fraud Detection." In Springer Series in Supply Chain Management, 223–47. https://doi.org/10.1007/978-3-030-75729-8_8

Basrai, Abbas. 2021. "Artificial Intelligence in Risk Management." KPMG, September 23, 2021. https://kpmg.com/ae/en/home/insights/2021/09/artificial-intelligence-in-risk-management.html

Baxter, Kathy. 2023. "Managing the Risks of Generative AI." Harvard Business Review. October 24, 2023. https://hbr.org/2023/06/managing-the-risks-of-generative-ai

Biswas, Suborno. 2023. “The Role of Data Science in Supply Chain Optimization: Streamlining Operations and Logistics.” May 25, 2023. https://www.linkedin.com/pulse/role-data-science-supply-chain-optimization-logistics-suborno-biswas/

Biswas, Suparna, Brant Carson, Violet Chung, Shwaitang Singh, and Renny Thomas. 2020. “AI-Bank of the Future: Can Banks Meet the AI Challenge?” McKinsey & Company. September 19, 2020. https://www.mckinsey.com/industries/financial-services/our-insights/ai-bank-of-the-future-can-banks-meet-the-ai-challenge

“Blueprint for an AI Bill of Rights.” 2022. *The White House*, October. https://www.whitehouse.gov/wp-content/uploads/2022/10/Blueprint-for-an-AI-Bill-of-Rights.pdf

Borowiec, Steven. 2017. “Google’s AlphaGo AI Defeats Human in First Game of Go Contest.” The Guardian, November 29, 2017. https://www.theguardian.com/technology/2016/mar/09/google-deepmind-alphago-ai-defeats-human-lee-sedol-first-game-go-contest

Bouchefry, Khadija El, and Rafael S. De Souza. 2020. “Learning in Big Data: Introduction to Machine Learning.” In Elsevier eBooks, 225–49. https://doi.org/10.1016/b978-0-12-819154-5.00023-0

Bousquette, Isabelle. 2023. “EY Unveils Fruits of $1.4 Billion Artificial-Intelligence Investment.” WSJ, September 13, 2023. https://www.wsj.com/articles/ey-unveils-fruits-of-1-4-billion-artificial-intelligence-investment-ab8d5b5a

Božić, Velibor. 2023. “THE ROLE OF ARTIFICIAL INTELLIGENCE IN RISK MANAGEMENT.” ResearchGate, April. https://doi.org/10.13140/RG.2.2.29886.77126

Bradley, Stu. 2023. “6 Essentials for Fighting Fraud with Machine Learning.” MIT Technology Review, September 18, 2023. https://www.technologyreview.com/2019/11/18/131912/6-essentials-for-fighting-fraud-with-machine-learning/

“Business Impacts of Machine Learning.” n.d. Deloitte Turkey. https://www2.deloitte.com/tr/en/pages/strategy-operations/articles/business-impacts-of-machine-learning.html

Canayaz, M., Kantorovitch, I., and Mihet, R. 2021. “Privacy Laws and Value of Personal Data.” Smeal College of Business. December 15, 2021. https://www.law.nyu.edu/sites/default/files/Roxana%20Mihet%20Paper%20Final.pdf

Capgemini. 2021. “How to Drive AI at Scale to Transform the Financial Services Customer Experience,” 2021. https://www.capgemini.com/wp-content/uploads/2021/02/Report-AI-in-CX-FS-3.pdf

Carmel, Ori. 2023. “Combining And Leveraging The Strengths Of AI And Human Consultants.” Forbes. June 20, 2023. https://www.forbes.com/sites/forbesbusinesscouncil/2023/06/20/combining-and-leveraging-the-strengths-of-ai-and-human-consultants/

Çelik, İSmail, Muhterem Dindar, Hanni Muukkonen, and Sanna Järvelä. 2022. “The Promises and Challenges of Artificial Intelligence for Teachers: A Systematic Review of Research.” TechTrends 66 (4): 616–30. https://doi.org/10.1007/s11528-022-00715-y

"ChatGPT May Already Be Used in Nation State Cyberattacks, Say IT Decision Makers in BlackBerry Global Research." n.d. https://www.blackberry.com/us/en/company/newsroom/press-releases/2023/chatgpt-may-already-be-used-in-nation-state-cyberattacks-say-it-decision-makers-in-blackberry-global-research?ref=cybersixgill-news

Chris Smith, Brian McGuire, Ting Huang, and Gary Yang. 2006. "The History of Artificial Intelligence." University of Washington, December. https://courses.cs.washington.edu/courses/csep590/06au/projects/history-ai.pdf

Cohan, Peter. 2023. "Why Companies Buy Generative AI Consulting: The 3-Month Payback Factor." Forbes, September 23, 2023. https://www.forbes.com/sites/petercohan/2023/09/23/why-companies-buy-generative-ai-consulting-the-3-month-payback-factor/?sh=11e41cdb6cf6

Dayan, Peter. n.d. "Unsupervised Learning." The MIT Encyclopedia of the Cognitive Sciences. https://web.math.princeton.edu/~sswang/developmental-diaschisis-references/dun99b.pdf

De Bellefonds, Nicolas, Djon Kleine, Michael Grebe, Caleb Ewald, and Clemens Nopp. 2023. "What's Dividing the C-Suite on Generative AI?" BCG Global. October 9, 2023. https://www.bcg.com/publications/2023/c-suite-genai-concerns-challenges?linkId=238962996

"Deep Learning vs Machine Learning - Difference Between Data Technologies - AWS." n.d. Amazon Web Services, Inc. https://aws.amazon.com/compare/the-difference-between-machine-learning-and-deep-learning/

Dell'Acqua, Fabrizio, Edward McFowland, Ethan Mollick, Hila Lifshitz-Assaf, Katherine C. Kellogg, Saran Rajendran, Lisa J. Krayer, François Candelon, and Karim R. Lakhani. 2023. "Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality." Social Science Research Network, January.
https://doi.org/10.2139/ssrn.4573321

Delua, Julianna. 2021. "Supervised vs. Unsupervised Learning: What's the Difference? - IBM Blog." IBM Blog. March 12, 2021.
https://www.ibm.com/blog/supervised-vs-unsupervised-learning/

Digalaki, Eleni. 2022. "The Impact of Artificial Intelligence in the Banking Sector & How AI Is Being Used in 2022." Business Insider, February 7, 2022.
https://www.businessinsider.com/ai-in-banking-report

Dorota-Owczarek. 2021. "Predictive Analytics in Supply Chain Management. Boosting Supply Chain Analytics with AI." Nexocode (blog). November 10, 2021.
https://nexocode.com/blog/posts/predictive-analytics-in-supply-chain-analytics/

Education, Ibm Cloud. 2021. "Structured vs. Unstructured Data: What's the Difference? - IBM Blog." IBM Blog. June 29, 2021.
https://www.ibm.com/blog/structured-vs-unstructured-data/

Ekwueme, F., Areji, A., and Ugwu, A. 2023. "Beyond the Fear of Artifi_cial Intelligence and Loss of Job: a Case for Productivity and Efficiency." Qeios. July 24, 2023.
https://www.qeios.com/read/3BWNXG/pdf

Enholm, Ida Merete, Emmanouil Papagiannidis, Patrick Mikalef, and John Krogstie. 2021. "Artificial Intelligence and Business Value: A Literature Review." Information Systems Frontiers 24 (5): 1709–34.

https://doi.org/10.1007/s10796-021-10186-w

“Examples of AI National Policies.” 2020. OECD.

https://www.oecd.org/sti/examples-of-ai-national-policies.pdf

Fares, Omar H., Irfan Butt, and Seung Hwan Mark Lee. 2022. “Utilization of Artificial Intelligence in the Banking Sector: A Systematic Literature Review.” Journal of Financial Services Marketing, August.

https://doi.org/10.1057/s41264-022-00176-7

Feedzai. 2023. “Financial Fraud Detection Software | FeedZai.” November 10, 2023.

https://feedzai.com/

Fenwick, Ali. 2022. “Psychographics: How Big Data Is Watching You.” Hult International Business School. May 4, 2022.

https://www.hult.edu/blog/psychographics-big-data-watching/

Flinders, Mesh, and Mesh Flinders. 2023. “AI in Marketing: How to Leverage This Powerful New Technology for Your next Campaign.” IBM Blog. October 6, 2023.

https://www.ibm.com/blog/ai-in-marketing/

Gaidhani, Shilpa. 2020. “The Role of Artificial Intelligence in Automation of HR Practices.” ResearchGate, August.

https://www.researchgate.net/publication/343415402_The_Role_of_Artificial_Intelligence_in_Automation_of_HR_Practices

Gallo, Amy. 2022. “A Refresher on Regression Analysis.” Harvard Business Review. October 12, 2022.

https://hbr.org/2015/11/a-refresher-on-regression-analysis

Gînguță, Andrea, Petru Ştefea, Graţiela Georgiana Noja, and Valentin Munteanu. 2023. "Ethical Impacts, Risks and Challenges of Artificial Intelligence Technologies in Business Consulting: A New Modelling Approach Based on Structural Equations." https://www.researchgate.net/publication/369401190_Ethical_Impacts_Risks_and_Challenges_of_Artificial_Intelligence_Technologies_in_Business_Consulting_A_New_Modelling_Approach_Based_on_Structural_Equations

Giovine, Carlo, Larry Lerner, Jared Moon, and Stefan Schorsch. 2023. "Been There, Doing That: How Corporate and Investment Banks Are Tackling Gen AI." McKinsey & Company. September 25, 2023. https://www.mckinsey.com/industries/financial-services/our-insights/been-there-doing-that-how-corporate-and-investment-banks-are-tackling-gen-ai

"Global AI Survey: AI proves its worth, but few scale impact." 2019. McKinsey & Company. https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Artificial%20Intelligence/Global%20AI%20Survey%20AI%20proves%20its%20worth%20but%20few%20scale%20impact/Global-AI-Survey-AI-proves-its-worth-but-few-scale-impact.pdf

Gopalakrishnan, Sriram, Val Srinivas, and Abhinav Chauhan. 2023. "Unleashing a New Era of Productivity in Investment Banking through the Power of Generative AI." Deloitte Insights. October 3, 2023. https://www2.deloitte.com/us/en/insights/industry/financial-services/financial-services-industry-predictions/2023/generative-ai-in-investment-banking.html

Haan, Katherine. 2023. "How Businesses Are Using Artificial Intelligence In 2023." Forbes Advisor, April 24, 2023. https://www.forbes.com/advisor/business/software/ai-in-business/

Haefner, Naomi, Joakim Wincent, Vinit Parida, and Oliver Gassmann. 2021. “Artificial Intelligence and Innovation Management: A Review, Framework, and Research Agenda.” Technological Forecasting and Social Change 162 (January): 120392. https://doi.org/10.1016/j.techfore.2020.120392

Hagedorn, K. 2020. “British Airways data breach: what happened to £163 million of the proposed fine?” Jenner & Block. October 19, 2020. https://www.jenner.com/a/web/xjWyJVjLFZ4m3CrGxyuX24/4k1XjG/British_Airways_data_breach_Alert.pdf

Harkut, Dinesh G., and Kashmira Kasat. 2019. “Introductory Chapter: Artificial Intelligence - Challenges and Applications.” In IntechOpen eBooks. https://doi.org/10.5772/intechopen.84624

Haupt, Sue Ellen, David John Gagne, William W. Hsieh, Vladimir M. Krasnopolsky, Amy McGovern, Caren Marzban, William R. Moninger, Valliappa Lakshmanan, Philippe Tissot, and John K. Williams. 2022. “The History and Practice of AI in the Environmental Sciences.” Bulletin of the American Meteorological Society 103 (5): E1351–70. https://doi.org/10.1175/bams-d-20-0234.1

“Here Are 3 Ways AI Will Change Healthcare by 2030.” 2020. World Economic Forum. February 9, 2020. https://www.weforum.org/agenda/2020/01/future-of-artificial-intelligence-healthcare-delivery/

“Here’s How AI Will Accelerate the Energy Transition.” 2022. World Economic Forum. May 20, 2022. https://www.weforum.org/agenda/2021/09/this-is-how-ai-will-accelerate-the-energy-transition/

"Here's How Artificial Intelligence Can Benefit the Retail Sector." 2023. World Economic Forum. October 6, 2023. https://www.weforum.org/agenda/2023/01/here-s-how-artificial-intelligence-benefit-retail-sector-davos2023/

"How AI Can Scale Personalization and Creativity in Marketing - SPONSOR CONTENT FROM INTUIT MAILCHIMP." 2023. Harvard Business Review. August 17, 2023. https://hbr.org/sponsored/2023/08/how-ai-can-scale-personalization-and-creativity-in-marketing

"How to Leverage AI in Marketing: Three Ways to Improve Consumer Experience." n.d. Deloitte Slovenia. https://www2.deloitte.com/si/en/pages/strategy-operations/articles/AI-in-marketing.html

"How We Help Clients." 2022. McKinsey & Company. May 12, 2022. https://www.mckinsey.com/capabilities/quantumblack/how-we-help-clients

"IBM Global AI Adoption Index 2022." 2022. https://www.ibm.com/downloads/cas/GVAGA3JP

Jesuthasan, Ravin, Helen White, Kate Bravery, Jason Averbook, and Todd Lambrugo. 2021. "Generative AI Will Transform Three Key HR Roles." Mercer. https://www.mercer.com/en-ie/insights/people-strategy/future-of-work/generative-ai-will-transform-three-key-hr-roles/?size=n_20_n

Jia, Qiong; Guo, Yue; Li, Rong; Li, Yurong; and Chen, Yuwei. 2018. "A Conceptual Artificial Intelligence Application Framework in Human Resource Management." ICEB 2018 Proceedings. https://aisel.aisnet.org/iceb2018/91

Kareem. 2023. “Pricing and Artificial Intelligence: A Match Made in Heaven?” Pricing Solutions. March 31, 2023. https://www.pricingsolutions.com/pricing-blog/pricing-and-artificial-intelligence-price-optimzation/

Karjian, Ron. 2023. “The History of Artificial Intelligence: Complete AI Timeline.” Enterprise AI. August 16, 2023. https://www.techtarget.com/searchenterpriseai/tip/The-history-of-artificial-intelligence-Complete-AI-timeline

Kaur, Mandeep, and Franco Gandolfi. 2023. “Artificial Intelligence in Human Resource Management - Challenges and Future Research Recommendations.” ResearchGate, July. https://doi.org/10.24818/RMCI.2023.3.382

Kaur, Ramanpreet, Dušan Gabrijelčič, and Tomaž Klobučar. 2023. “Artificial Intelligence for Cybersecurity: Literature Review and Future Research Directions.” Information Fusion 97, September. https://doi.org/10.1016/j.inffus.2023.101804

Kreger, Alex. 2023. “The Future Of AI In Banking.” Forbes, March 20, 2023. https://www.forbes.com/sites/forbesbusinesscouncil/2023/03/20/the-future-of-ai-in-banking/?sh=5ae308e15ed5

Kumar, Vikas, Bharath Rajan, Rajkumar Venkatesan, and Jim Lecinski. 2019. “Understanding the Role of Artificial Intelligence in Personalized Engagement Marketing.” California Management Review 61 (4): 135–55. https://doi.org/10.1177/0008125619859317

Libert, Barry. 2017. “AI May Soon Replace Even the Most Elite Consultants.” Harvard Business Review. July 24, 2017.

https://hbr.org/2017/07/ai-may-soon-replace-even-the-most-elite-consultants?utm_campaign=hbr&utm_source=linkedin&utm_medium=social

Lin, Pohan. 2022. “AI-Based Marketing Personalization: How Machines Analyze Your Audience.” Marketing AI Institute (blog). September 2, 2022. https://www.marketingaiinstitute.com/blog/ai-based-marketing-personalization

Lungarella, Max, Fumiya Iida, Josh Bongard, and Rolf Pfeifer. 2007a. 50 Years of Artificial Intelligence. Lecture Notes in Computer Science. https://doi.org/10.1007/978-3-540-77296-5

“Machine Learning.” n.d. Google Books. https://books.google.pt/books?hl=pt-PT&lr=&id=ctM-EAAAQBAJ&oi=fnd&pg=PR6&dq=machine+learning&ots=oZRl-5Xq_t&sig=bVbvTEKrRJlPiDdlFDwXaTxB0HM&redir_esc=y#v=onepage&q=machine%20learning&f=false

Madhulatha, T. Soni. 2012. “An Overview on Clustering Methods.” arXiv.Org. May 5, 2012. https://arxiv.org/abs/1205.1117

Mahesh, Batta. 2019. “Machine Learning Algorithms -A Review.” ResearchGate, January. https://doi.org/10.21275/ART20203995

Maimon, Oded, and Lior Rokach. 2005. “Data Mining and Knowledge Discovery Handbook.” Springer eBooks. https://doi.org/10.1007/b107408

Malik, Nishtha, Shalini Nath Tripathi, Arpan Kumar Kar, and Shivam Gupta. 2021. “Impact of Artificial Intelligence on Employees Working in Industry 4.0 Led Organizations.” International Journal of Manpower 43 (2): 334–54.

https://doi.org/10.1108/ijm-03-2021-0173

Marr, Bernard. 2020. “Six Crucial Elements to Adopt AI Successfully - IBM UK & Ireland - Blog.” IBM UK & Ireland - Blog. July 7, 2020. https://www.ibm.com/blogs/think/uk-en/six-crucial-elements-to-adopt-ai-successfully/

Marr, Bernard. 2023. “A Short History Of ChatGPT: How We Got To Where We Are Today.” Forbes, May 19, 2023. https://www.forbes.com/sites/bernardmarr/2023/05/19/a-short-history-of-chatgpt-how-we-got-to-where-we-are-today/?sh=31d779e1674f

Martech, Author. 2022. “How Do Businesses Use Artificial Intelligence?” Wharton Online. January 19, 2022. https://online.wharton.upenn.edu/blog/how-do-businesses-use-artificial-intelligence/

Masum, A.K.M., Loo-See Beh, A.-k. Azad, and Kazi Enamul Hoque. 2018. “Intelligent Human Resource Information System (i-HRIS): A Holistic Decision Support Framework for HR...” ResearchGate, January. https://www.researchgate.net/publication/322853406_Intelligent_human_resource_information_system_i-HRIS_A_holistic_decision_support_framework_for_HR_excellence

Mathrani, Sanjay, and Benjamin Edwards. 2020. “Knowledge-Sharing Strategies in Distributed Collaborative Product Development.” Journal of Open Innovation: Technology, Market, and Complexity 6 (4): 194. https://doi.org/10.3390/joitmc6040194

Maven. 2023. “How Artificial Intelligence Is Affecting Banking & Finance,” July 13, 2023. https://maven.com/articles/ai-banking

"Meet Lilli, Our Generative AI Tool That's a Researcher, a Time Saver, and an Inspiration." 2023. McKinsey & Company. August 16, 2023. https://www.mckinsey.com/about-us/new-at-mckinsey-blog/meet-lilli-our-generative-ai-tool

Memon, Bilal. 2021. "How Predictive Analytics & Machine Learning Is Revolutionizing Inventory Management?" February 6, 2021. https://www.linkedin.com/pulse/how-predictive-analytics-machine-learning-inventory-management-memon/

Misheva, Branka Hadji. 2021. "Explainable AI in Credit Risk Management." arXiv.Org. March 1, 2021. https://arxiv.org/abs/2103.00949

Misra, Sarvarth. 2023. "How AI Can Be The Secret Sauce To Your Risk Management Strategy." Forbes, January 2, 2023. https://www.forbes.com/sites/forbestechcouncil/2023/01/02/how-ai-can-be-the-secret-sauce-to-your-risk-management-strategy/?sh=691c7c681a19

Moisset, Sonya. 2023. "How Security Analysts Can Use AI in Cybersecurity." freeCodeCamp.Org. May 25, 2023. https://www.freecodecamp.org/news/how-to-use-artificial-intelligence-in-cybersecurity/

Morgan Stanley. 2023. "Key Milestone in Innovation Journey with OpenAI | Morgan Stanley." March 14, 2023. https://www.morganstanley.com/press-releases/key-milestone-in-innovation-journey-with-openai

Ms, C. J. Garbo. 2023. "Unleashing the Power of AI in Cybersecurity: A Paradigm Shift for the Modern Workplace." September 13, 2023.

https://www.linkedin.com/pulse/unleashing-power-ai-cybersecurity-paradigm-shift-modern-garbo-ms/

Murugesan, Umasankar, Padmavathy Subramanian, Shefali Srivastava, and Ashish Dwivedi. 2023. “A Study of Artificial Intelligence Impacts on Human Resource Digitalization in Industry 4.0.” Elsevier. https://e-tarjome.com/storage/panel/fileuploads/2023-06-19/1687159806_e-tarjome-e17487.pdf

Nissen, Volker. 2018. Digital Transformation of the Consulting Industry. Progress in IS. https://doi.org/10.1007/978-3-319-70491-3

“Notes from the AI frontier: AI adoption advances, but foundational barriers remain.” 2018. *McKinsey Analytics*. https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Artificial%20Intelligence/AI%20adoption%20advances%20but%20foundational%20barriers%20remain/Notes-from-the-AI-frontier-AI-adoption-advances-but-foundational-barriers-remain.ashx

“Number of Fintech Startups Globally by Region 2023 | Statista.” 2023. Statista. August 29, 2023. https://www.statista.com/statistics/893954/number-fintech-startups-by-region/

Omeyer, Alexandre. 2023. “The CTO’s 4-Step Guide to Adopting AI.” September 25, 2023. https://stepsize.com/blog/the-ctos-4-step-guide-to-adopting-ai

Oswald, Frederick L., Tara S. Behrend, Dan J. Putka, and Evan F. Sinar. 2020. “Big Data in Industrial-Organizational Psychology and Human Resource Management: Forward Progress for Organizational Research and Practice.” Annual Review of Organizational Psychology and Organizational Behavior 7 (1): 505–33. https://doi.org/10.1146/annurev-orgpsych-032117-104553

Pollack, Andrew. 1992. "'Fifth Generation' Became Japan's Lost Generation." The New York Times, June 5, 1992. https://www.nytimes.com/1992/06/05/business/fifth-generation-became-japan-s-lost-generation.html

"Predictive Analytics for Predicting Customer Behavior." 2019. IEEE Conference Publication | IEEE Xplore. March 1, 2019. https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8834571

"Predictive Analytics in Health Care Using Machine Learning Tools and Techniques." 2017. IEEE Conference Publication | IEEE Xplore. June 1, 2017. https://ieeexplore.ieee.org/abstract/document/8250771?casa_token=-_EmQMuJCnwAAAAA:fS5HLD-791ms61aWyh0NRXFr61XXyPFKaP56m5Kxtf2zx2Kbt3p9WqP7Fc_LuQqmS7dO7nxVxg

"PwC US Makes $1 Billion Investment to Expand and Scale AI Capabilities." PwC. https://www.pwc.com/us/en/about-us/newsroom/press-releases/pwc-us-makes-billion-investment-in-ai-capabilities.html

"Quantum-Black." n.d. McKinsey & Company. https://www.mckinsey.com/about-us/overview/alliances-and-acquisitions/quantumblack

Rajaraman, V. 2014. "JohnMcCarthy — Father of Artificial Intelligence." Resonance 19 (3): 198–207. https://doi.org/10.1007/s12045-014-0027-9

Ransbotham, S., Kiron, D., Gerbert, P., and Reeves, M. 2017. "Reshaping Business With Artificial Intelligence." BCG. https://web-assets.bcg.com/img-src/Reshaping%20Business%20with%20Artificial%20Intelligence_tcm9-177882.pdf

Ravichandran, Hari. 2023. “How AI Is Disrupting And Transforming The Cybersecurity Landscape.” Forbes, March 15, 2023. https://www.forbes.com/sites/forbestechcouncil/2023/03/15/how-ai-is-disrupting-and-transforming-the-cybersecurity-landscape/?sh=9f80d3946830

Rehman, Amjad, and Tanzila Saba. 2012. “Evaluation of Artificial Intelligent Techniques to Secure Information in Enterprises.” Artificial Intelligence Review 42 (4): 1029–44. https://doi.org/10.1007/s10462-012-9372-9

“Review of Using Technologies of Artificial Intelligence in Companies - ProQuest.” n.d. https://www.proquest.com/openview/888c8c588f2a62d2ee74d87bdae167b5/1?cbl=52057&pq-origsite=gscholar&parentSessionId=ANuDgOJQ1ZKF6sfN4jhhRSBiZMUlkWC%2BJPI%2BC9jXJTY%3D

Roose, Kevin. 2022. “The Brilliance and Weirdness of ChatGPT.” The New York Times, December 6, 2022. https://www.nytimes.com/2022/12/05/technology/chatgpt-ai-twitter.html

Sahota, Neil. 2023. “AI in Business: Benefits, Challenges & More.” February 21, 2023. https://www.linkedin.com/pulse/ai-business-benefits-challenges-more-neil-sahota-%E8%90%A8%E5%86%A0%E5%86%9B-/

Sakka, F. 2022. “Human Resource Management In The Era Of Artificial Intelligence Future HR Work Practices, Anticipated Skill Set, Financial And Legal Implications.” Research Gate, January. https://www.researchgate.net/publication/357752461_Human_Resource_Management_In_The_Era_Of_Artificial_Intelligence_Future_HR_Work_Practices_Anticipated_Skill_Set_Financial_And_Legal_Implications

Sallomi, Paul. 2015. “Artificial intelligence (AI) goes mainstream.” Deloitte United States. July 29, 2015. https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/artificial-intelligence-disruption.html

SAS. 2020. “Building Artificial Intelligence in Credit Risk: A Commercial Lending Perspective,” 2020. https://www.sas.com/content/dam/SAS/documents/marketing-whitepapers-ebooks/sas-whitepapers/en/artificial-intelligence-in-credit-risk-111286.pdf

Schneider, Patrick, and Fatos Xhafa. 2022. “Machine Learning.” In Elsevier eBooks, 149–91. https://doi.org/10.1016/b978-0-12-823818-9.00019-5

Sen, Arindam. 2021. “Global Capability Centers to Be the Epicenters of Efficiency, Innovation and Modern Practices in 2021.” January 14, 2021. https://www.ey.com/en_in/consulting/the-future-of-consulting-in-the-age-of-generative-ai

Seufert, Eric Benjamin. 2014. “Freemium Monetization.” In Elsevier eBooks. https://doi.org/10.1016/b978-0-12-416690-5.00006-3

Sheikh, Haroon, Corien Prins, and Erik Schrijvers. 2023. “Artificial Intelligence: Definition and Background.” In Research for Policy, 15–41. https://doi.org/10.1007/978-3-031-21448-6_2

Spencer, David A. 2018. “Fear and Hope in an Age of Mass Automation: Debating the Future of Work.” *New Technology, Work and Employment* 33 (1): 1–12. https://doi.org/10.1111/ntwe.12105

Statista. 2023. “Use of AI in Financial Services Sector Worldwide 2021.” February 15, 2023. https://www.statista.com/statistics/1254008/ai-adoption-in-financial-services-sector/

Statista. n.d. “Artificial Intelligence - Global | Statista Market Forecast.” https://www.statista.com/outlook/tmo/artificial-intelligence/worldwide

Stefanović, Nenad. 2014. “Proactive Supply Chain Performance Management with Predictive Analytics.” The Scientific World Journal 2014 (January): 1–17. https://doi.org/10.1155/2014/528917

Subaşı, Abdülhamit. 2020. “Machine Learning Techniques.” In Elsevier eBooks. https://doi.org/10.1016/b978-0-12-821379-7.00003-5

Talagala, Nisha. 2022. “AI Ethics: What It Is And Why It Matters.” Forbes, June 1, 2022. https://www.forbes.com/sites/nishatalagala/2022/05/31/ai-ethics-what-it-is-and-why-it-matters/

Tala Mirzaei. 2014. “Application of Predictive Analytics in Customer Relationship Management: A Literature Review and Classification.” Association for Information Systems AIS Electronic Library (AISeL). https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1022&context=sais2014

Teng, Choh Man. 2011. “Data, Data, Everywhere.” In Elsevier eBooks, 1099–1117. https://doi.org/10.1016/b978-0-444-51862-0.50034-4

Thormundsson, Bergur. 2023. “AI Adoption by Industry/Function in Global Organizations 2022.” Statista. September 28, 2023. https://www.statista.com/statistics/1112982/ai-adoption-worldwide-industry-function/

“The Business Case for AI in HR: Insights and tips on getting started.” 2021. IBM. https://www.ibm.com/downloads/cas/A5YLEPBR

“The Future of AI in Banking.” 2021. Deloitte United States. https://www2.deloitte.com/us/en/pages/consulting/articles/ai-in-banking.html

"The impact of the General Data Protection Regulation (GDPR) on artificial intelligence." 2020. European Parliamentary Research Service, June. https://www.europarl.europa.eu/RegData/etudes/STUD/2020/641530/EPRS_STU(2020)641530_EN.pdf

"The new age: artificial intelligence for HR opportunities and functions." 2018. EY. https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/alliances/ey-the-new-age-artificial-intelligence-for-human-resources-010978-18gbl.pdf

"The state of AI in 2022—and a half decade in review." 2022. McKinsey & Company. December 6, 2022. https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai-in-2022-and-a-half-decade-in-review

"The State of AI in 2023: Generative AI's Breakout Year." 2023. McKinsey & Company. August 1, 2023. https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai-in-2023-generative-ais-breakout-year

Thowfeek, Mohamed Hussain, Sabraz Nawaz Samsudeen, and M.B. Fathima Sanjeetha. 2020. "Drivers of AI in Banking Service Sectors." ResearchGate, December. https://www.researchgate.net/publication/348257112_Drivers_of_Artificial_Intelligence_in_Banking_Service_Sectors

Tieng, Kimseng, Amna Javed, Chawalit Jeenanunta, and Youji Kohda. 2020. "Applications of Fuzzy Logic to Reconfigure Human Resource Management Practices for Promoting Product Innovation in Formal and Non-Formal R&D Firms." Journal of Open Innovation: Technology, Market, and Complexity 6 (2): 38. https://doi.org/10.3390/joitmc6020038

"Unlocking Customer Insights with Data and AI." n.d. Accenture. https://www.accenture.com/us-en/insights/artificial-intelligence/understand-customer

Vaghashia, Sundeep G. 2023. "Tips for a Successful Artificial Intelligence Adoption Strategy." October 2, 2023. https://www.linkedin.com/pulse/tips-successful-artificial-intelligence-adoption-sundeep-g-vaghashia/

Weingarten, Jennifer. 2021. "The Value of Customer Behavior in Supply Chain Management." Otto Beisheim School of Management, October. https://opus4.kobv.de/opus4-whu/frontdoor/index/index/docId/888

Weitzman, Tyler. 2022. "The Top Five Ways AI Is Transforming Business." Forbes, November 21, 2022. https://www.forbes.com/sites/forbesbusinesscouncil/2022/11/21/the-top-five-ways-ai-is-transforming-business/?sh=414d63388e7f

"What Are the Benefits and Challenges of Using AI for Customer Segmentation and Targeting?" Linkedin. October 5, 2023. https://www.linkedin.com/advice/3/what-benefits-challenges-using-ai-customer-segmentation

"What Is a Managed Database?" n.d. Oracle. https://www.oracle.com/pt/artificial-intelligence/what-is-natural-language-processing/

"What Is Computer Vision?" n.d. IBM. https://www.ibm.com/topics/computer-vision

"What Is Computer Vision? | Microsoft Azure." n.d. https://azure.microsoft.com/en-us/resources/cloud-computing-dictionary/what-is-computer-vision/#object-classification

"What Is Generative AI?" 2023. McKinsey & Company. January 19, 2023. https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-generative-ai

"What Is Natural Language Processing? | Google Cloud." n.d. Google Cloud. https://cloud.google.com/learn/what-is-natural-language-processing

"What Is Predictive Analytics? 5 Examples | HBS Online." 2021. Business Insights Blog. October 26, 2021. https://online.hbs.edu/blog/post/predictive-analytics

"What Is Supervised Learning?" n.d. IBM. https://www.ibm.com/topics/supervised-learning

"What Is Unsupervised Learning?" n.d. IBM. https://www.ibm.com/topics/unsupervised-learning

"Why AI is a Game Changer for Risk Management." Deloitte. 2016. https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/us-ai-risk-powers-performance.pdf

Wittek, Peter. 2014. "Unsupervised Learning." In Elsevier eBooks, 57–62. https://doi.org/10.1016/b978-0-12-800953-6.00005-0

Younger, Jon. 2023. "CEOs Explain How AI Will Super Charge Independent Management Consulting." Forbes, September 5, 2023. https://www.forbes.com/sites/jonyounger/2023/09/05/ceos-explain-how-ai-will-super-charge-independent-management-consulting/?sh=161c2f546713

Zulaikha, S., Hazik M., Masmira K., Sulistya R., and Sylva R.. 2020. "Customer Predictive Analytics Using AI." The Singapore Economic Review, August 1–12. https://doi.org/10.1142/s0217590820480021

References Individual Sections

AI in Accenture

"360° Value Report 2022 Measuring Value in All Directions." n.d. Accenture. https://www.accenture.com/content/dam/accenture/final/accenture-com/document/360-Value-Report-2022-EN.pdf

"Accenture KX - 1266 Words | Bartleby." n.d. https://www.bartleby.com/essay/Accenture-Kx-P3ZQZJK8KDRVS

"Accenture Launches Intelligent Automation Platform to Deliver Smarter, More Efficient Application Services That Improve Business Outcomes." *Accenture*. April 12, 2016. https://newsroom.accenture.com/news/accenture-launches-intelligent-automation-platform-to-deliver-smarter-more-efficient-application-services-that-improve-business-outcomes.htm

"Accenture Launches MyNav, Cloud Platform to Help Enterprises Navigate the Cloud Landscape." *Accenture*. November 26, 2019. https://newsroom.accenture.com/news/accenture-launches-mynav-cloud-platform-to-help-enterprises-navigate-the-cloud-landscape.htm

"Accenture Launches SynOps, a Human-Machine Operating Engine Designed to Help Enterprises Achieve Sustainable Competitive Advantage." *Accenture*. January 29, 2019. https://newsroom.accenture.com/news/accenture-launches-synops-a-human-machine-operating-engine-designed-to-help-enterprises-achieve-sustainable-competitive-advantage.htm

"Accenture Report: Artificial Intelligence Has Potential to Increase Corporate Profitability in 16 Industries by an Average of 38 Percent by 2035." *Accenture*. June 21, 2017. https://newsroom.accenture.com/news/accenture-report-artificial-intelligence-has-potential-to-increase-corporate-profitability-in-16-industries-by-an-average-of-38-percent-by-2035.htm

"Accenture Reports Strong Third-Quarter Fiscal 2023 Results." *Accenture*. June 22, 2023.

https://newsroom.accenture.com/news/accenture-reports-strong-third-quarter-fiscal-2023-results.htm

"Accenture to Invest $3 Billion in AI to Accelerate Clients' Reinvention." *Accenture*. June 13, 2023. https://newsroom.accenture.com/news/accenture-to-invest-3-billion-in-ai-to-accelerate-clients-reinvention.htm

"Amadeus to Work with Microsoft and Accenture to Develop New Generative AI-Powered Integrations to Support Corporate Travel Management." *Accenture*. September 25, 2023. https://newsroom.accenture.com/news/amadeus-to-work-with-microsoft-and-accenture-to-develop-new-generative-ai-powered-integrations-to-support-corporate-travel-management.htm

Beard, Chester. 2023. "The Importance of AI Courses for Businesses and How They Can Drive Success." September 26, 2023. https://www.linkedin.com/pulse/importance-ai-courses-businesses-how-can-drivesuccess-chester-beard/

"Consultants Emerge as Early Winners in Generative AI Boom." *WSJ*, June 22, 2023. https://www.wsj.com/articles/consultants-emerge-as-early-winners-in-generative-ai-boom-8df71d38?mod=article_inline

"Disruption Need Not Be An Enigma | Accenture." n.d. https://dokumen.tips/documents/disruption-need-not-be-an-enigma-accenture-how-susceptible-their-industry.html?page=18

Duchaine, Maxwell. 2023. "6 Benefits of In-House AI Chatbots." May 2, 2023. https://www.linkedin.com/pulse/6-benefits-in-house-ai-chatbots-maxwell-duchaine/

"Generative AI Technology Services | Accenture." n.d. https://www.accenture.com/us-en/services/applied-intelligence/generative-ai

"Information Security at Accenture." n.d. https://www.accenture.com/content/dam/accenture/final/accenture-com/document/Accenture-Information-Security-Overview-2023.pdf

Kanioura, Athina, and Lucini, Fernando. n.d. "Ready. Set. Scale." *Accenture*. https://www.accenture.com/content/dam/accenture/final/a-com-migration/pdf/pdf-113/accenture-ready-set-scale.pdf#zoom=40

"KPMG Unveils Cutting-Edge, 'Private' ChatGPT Software," *KPMG*. March 22, 2023. https://kpmg.com/au/en/home/media/press-releases/2023/03/kpmg-unveils-cutting-edge-private-chatgpt-software-march-2023.html

"Lisbon Intelligent Operations Center | Accenture." n.d. https://www.accenture.com/pt-pt/services/operations/intelligent-operations-center

"Our innovation centers in Portugal | Accenture." n.d. https://www.accenture.com/pt-pt/services/about/innovation-centers-english-index

"ServiceNow, NVIDIA, and Accenture Team to Accelerate Generative AI Adoption for Enterprises." *Accenture*. July 26, 2023. https://newsroom.accenture.com/news/servicenow-nvidia-and-accenture-team-to-accelerate-generative-ai-adoption-for-enterprises.htm

"Solutions.AI for Talent & Skilling." Accenture. n.d. https://www.accenture.com/us-en/services/applied-intelligence/solutions-ai-talent-skilling

"The 10 Largest IT Consulting Companies in the World." *History Computer*. August 10, 2023. https://history-computer.com/largest-it-consulting-companies/

"The Accenture 360° Value Reporting Experience,." *Accenture*. December 16, 2021. https://newsroom.accenture.com/news/accenture-launches-360-degree-value-reporting-experience.htm

"Tipping the Scales in AI: How Leaders Capture Exponential Returns." *McKinsey & Company*. April 23, 2021. https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/tipping-the-scales-in-ai

Trovato, Stephanie. 2023. "The Complete Guide to AI Transparency [6 Best Practices]."*HubSpot*, December 5, 2023. https://blog.hubspot.com/marketing/ai-transparency

Vartak, Manasi. 2022. "How to Scale AI in Your Organization." Harvard Business Review. https://hbr.org/2022/03/how-to-scale-ai-in-your-organization

Appendix

Figure 1. Core AI Practices in Place at Companies

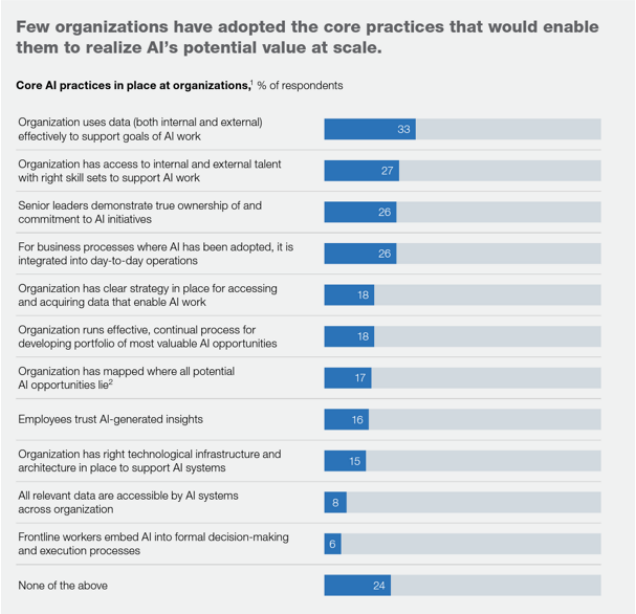
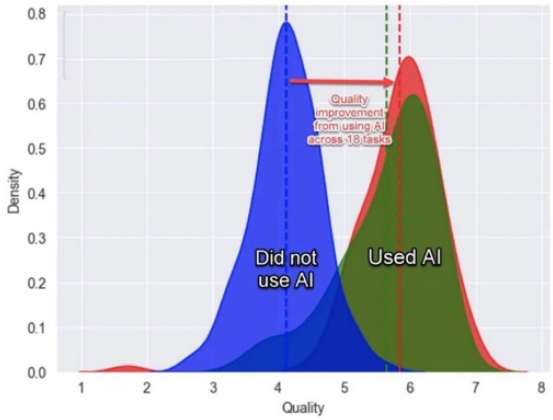


Figure 2. Impact of AI on Employees in the Consulting Industry



Distribution of output quality across all the tasks. The blue group did not use AI, the green and red groups used AI, the red group got some additional training on how to use AI.

Figure 3. Median AI Maturity Index by Industry

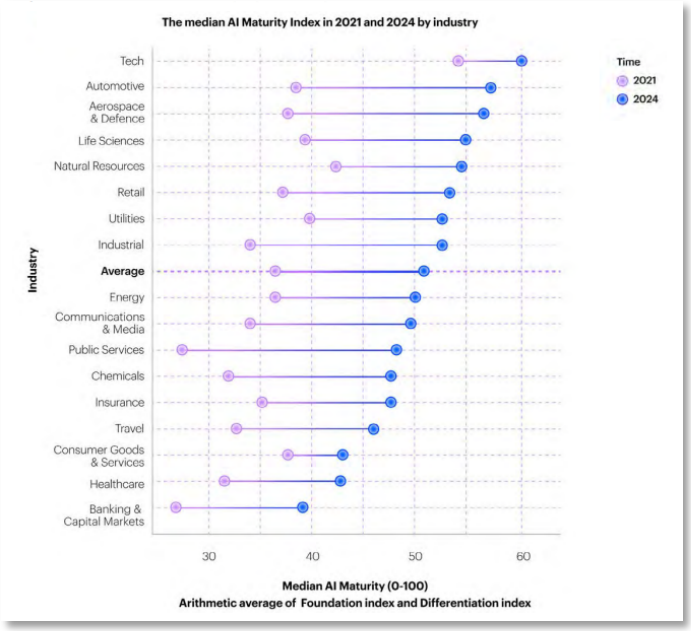


Figure 4. AI Benefits

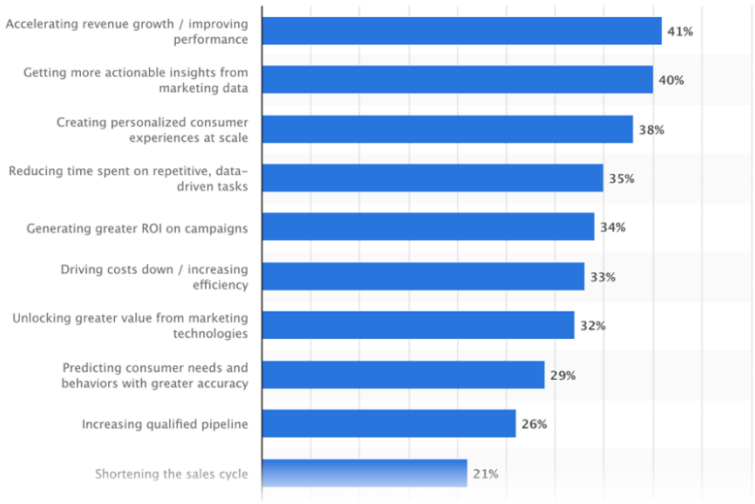


Figure 5. Time by Task: HRBP versus AI and Automation

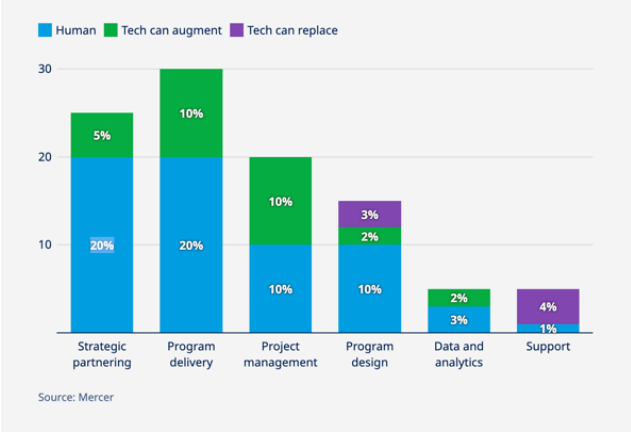


Figure 6. Cross-Comparison Analysis KPIs

KPIs	1	2	3	4	5
AI Investments			BANCO DE PORTUGAL	Mercer	KPMG accenture
AI Adoption Rate		BANCO DE PORTUGAL		KPMG accenture Mercer	
AI Ethical Compliance and Data Privacy				KPMG accenture Mercer	BANCO DE PORTUGAL
AI Strategic Alignment				KPMG BANCO DE PORTUGAL	accenture Mercer
AI Transparency Level			accenture	KPMG	BANCO DE PORTUGAL Mercer
AI Training			accenture	KPMG BANCO DE PORTUGAL Mercer	
AI Talent		BANCO DE PORTUGAL	KPMG		accenture Mercer
Technological Novelty		BANCO DE PORTUGAL		KPMG accenture Mercer	