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AI and Job Automation in Ireland: Navigating Efficiencies, Labour Transformations and Ethical Challenges in Irish Organisations

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Abstract

The emergence and development of AI and job automation technologies in the last decade has contributed to significant changes within organisational landscapes on a global scale, particularly in the post-pandemic era. This thesis examines how AI and Job Automation has brought these changes, with emphasis on three key components: efficiency, labour transformation and ethical challenges in Irish organisations.

Using case studies from a broad range of different Irish companies, this study explores the efficiency of using AI systems in comparison to human productivity. The potential cost savings that stem from investment in AI and the ethical discussion surrounding its full implementation in Irish organisations will also be explored. Additionally, the study will examine how AI adoption may lead to significant labour transformation, including job displacement, the creation of new roles, and the need for workforce upskilling.

Key findings from qualitative analysis across Irish organisations indicate that AI and job automation is increasing efficiency, productivity and accuracy. This thesis explores the nature of automation, highlighting opportunities for innovation and growth in the face of job displacement concerns and skill deficits. Significantly, while Ireland's investment in AI is lower than its European counterparts, the young Irish workforce have a strong relationship with Irish based international companies that are supported by sturdy AI systems.

The role of the European Union in supporting the acceleration of AI and job automation is supported by the development of new AI factories throughout Europe which will benefit Ireland in the longer term.

Ethical dilemmas around bias in AI systems, questions of transparency, and the moral responsibility of organisations to balance automation with human welfare will also be examined. The role of the Irish government around research and development, investment and regulation are fundamental to the progress of AI systems.

This research offers insights into the long-term implications of AI and job automation in the workplace and how Irish organisations will be enhanced or disadvantaged because of its future development, taking into account the relevant ethical considerations surrounding its future use.

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Chapter 1: Introduction

1.1 Overview

The inclusion of AI and Job Automation has been advancing at a rapid pace in organisations in the modern world. In Ireland, the incorporation of these technologies has been accelerated following the COVID-19 pandemic. This unprecedented event required workers to work remotely and forced the organisations to adapt their production methods rapidly to remain viable. AI and automation have brought many benefits such as making processes faster and more efficient. However, fundamental challenges have emerged including job losses, changing competencies for workers, and ethics regarding the use of these new technologies.

1.2 Background

AI advancements and job automation are now immersed in some way in the functionality of most organisations in the 21st century. These emerging technologies include examples such as machine learning, robotics, and other computer-based automated systems. The promise of better efficiency, lower costs, and higher productivity within industries is attractive. However, concern about disruption to traditional working methods, job losses, skill level disparity, and ethical debates concerning the use of AI is worthy of investigation.

The COVID-19 pandemic accelerated the introduction of AI and automation in many organisations. Confronting lockdowns, remote work arrangements, and economic uncertainty made it necessary to find new methods of maintaining or ensuring productivity at work. Automation helped to bridge the gap created by reduced access to the labour force who were required to work from home or who had to be temporarily laid off. AI tools supported many activities, such as supply chain operations, customer engagement, and analytics. These developments had many positive outcomes, but they also exposed the vulnerabilities created by machines that took precedence over workers and created inequalities in terms of access.

These issues are more relevant in Ireland, where the pharmaceutical, technology and manufacturing industries that use AI and automation on a large scale are also major players in the economy. AI and job automation drives innovation and growth but at the same time raises huge challenges for the workforce and policymakers in trying to upskill workers and maintain the equitable treatment of workers.

Based on existing literature related to the impacts brought by AI and automation, this paper has attempted to address specifically the impact of these changes on Irish organisations during the post-pandemic period. It explores how these technologies are now redefining organisations, their workforce composition, and society itself, with realistic recommendations for the management of change in a responsible way within organisations.

1.3 Research Justification and Rationale

The rapid growth of AI and job automation is transforming industries across the world, and Ireland is no exception. Ireland has a unique position as a global hub for technology companies and several automation-driven sectors such as manufacturing, healthcare, and financial services. It must be at the forefront in the management of the opportunities and challenges of these advancements.

While automation and AI have the potential to enhance efficiency and innovation, significant challenges associated with these technologies also arise, including job displacement, new skill requirements, and ethical dilemmas. These are particularly pertinent in the Irish context, where there is a need to balance technological progress with workforce well-being for sustainable economic growth. In addition, policymakers and organisations must consider such ethical concerns as bias in AI systems, transparency in decision-making, and societal impacts due to job losses driven by automation.

The research is justified because it identifies a critical knowledge gap from an Irish perspective, contributing to active debates concerning the use of AI and automation in shaping the future of work. The findings will be important to businesses, policymakers, and other stakeholders who look forward to finding an effective balance between efficiency, workforce transformation, and ethical considerations within Ireland's evolving economic landscape.

1.4 Aim of the Study

The research is intended to examine how Irish organisations have embraced AI and job automation and assess the greater implications of this shift. More precisely, it seeks to examine how these technologies are influencing operational efficiency, changing workforce structures, and ethical concerns. In analysing these dynamics, the study will aim to develop practical insights for businesses, policymakers, and other stakeholders on how to responsibly adopt technology that will support a work environment which is both fair and sustainable.

This study will provide an insight into the trends of different sectors in Ireland, and specific challenges arising from their level of automation and use of AI to meet the demands of specific industrial needs. It will also examine the requirement for bridging the deficits of skills, reducing the level of risk to jobs, and the proper usage of AI in decision-making.

1.5 Research Objectives

This research will examine how AI and job automation are now changing the working style of businesses in Ireland. The specific objectives are as follows:

- ➢ To assess how AI and automation enhance efficiency within a range of industries in Ireland.
- ➢ To examine how automation is changing jobs and what new skills workers need to compete and stay employable
- ➢ To identify the ethical challenges of the use of AI in workplaces related to fairness, bias, and job loss.
- ➢ To understand how organisations are responding to these changes, and what business strategies are being adopted, to proactively manage the assimilation of AI and automation in ways that are both fair and responsible.

These aims will help uncover the benefits and risks of AI in Irish workplaces and provide the solutions toward balanced future use.

1.6 Research Methods

To gain comprehensive insights, this study uses a qualitative methodology. The data is interpreted using thematic analysis, which reveals important themes and trends on how organisations have changed and continue to develop following the introduction of AI.

1.7 Thesis Overview

This thesis explores the impact of AI and job automation in post-pandemic Ireland, focusing on efficiency, workforce transformation, and ethical challenges. It is structured into six chapters:

Chapter 1: Introduction – This chapter introduces the research topic, therefore providing background information, justification of the research, aims, objectives, and an overview of the methods used.

Chapter 2: Literature Review – This chapter reviews the literature on past research into AI, automation, and workforce transformation. It includes an overview of developments within the EU and the role of the Irish government in the progression of AI.

Chapter 3: Methodology – This chapter describes the research design, methods of data collection (case studies), and methods of data analysis.

Chapter 4: Findings and Analysis – The results are presented and analysed in this chapter. The development of themes revolves around efficiency gains, changing job roles, ethical issues, and responses by businesses to the integration of AI.

Chapter 5: Discussion – This interprets the findings through comparisons with the existing body of research. It explores the greater implications for the adoption of AI, workforce adaptation, and ethics. The limitations of the study are outlined at the end of this section, in addition to suggested avenues of future research.

Chapter 6: Conclusion – The final chapter summarises the findings, outlines the contribution to research and practice. It also includes my final personal overview of the research and findings.

The study will incorporate a clear, logical exploration of how AI and automation shapes the Irish working environment whilst balancing technological progress with ethical and social responsibility.

Chapter 2: Literature Review

2.1 Introduction

The rapid development in the field of AI and automated technologies has brought about a change in the face of the global workforce, and Ireland is no exception. As the country transitioned out of the COVID-19 pandemic, the inclusion of AI and automation has accelerated in various sectors of the economy in Ireland, promising efficiency and productivity at the same time as raising serious concern for job displacement and ethical issues.

Recent estimates forecast an increase in the GDP of Ireland of €45 billion over the next decade, with AI also expected to be one of the most key drivers of economic growth. Yet this technological revolution also brings huge challenges, estimated to put about 160,000 jobs at high risk in Ireland due to displacement caused by AI-driven automation (Gowran, 2024). This contrast demonstrates the importance of investigating the challenges and identifying the opportunities resulting from AI and job automation in the Irish context.

2.2 Defining AI and Job Automation

‘‘Artificial intelligence (AI), the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings’’(Copeland, 2024, p.1). AI plays a critical role in the world today, because of its capability to perform tasks that require human intelligence with accuracy and efficiency.

Dario Amodei the co-founder of American company Anthropic refers to AI as a ‘super intelligence’ in his recent essay ‘Machines of Loving Grace’ and he has invested time and money into ways for organisations to safeguard against the potential harms of AI, while acknowledging the positive applications of AI in the areas of robotics, manufacturing, energy, biology and neuroscience (Amodei, 2024).

AI has both positive and negative consequences in the workplace. While it can be more efficient in terms of gathering figures from large datasets, there is always a potential for error. According to Jean-Philippe Deranty and Thomas Corbin (2022), AI is introduced in workplaces for increased efficiency in some technical aspect of the work process, or it is introduced explicitly with the aim of replacing human workers and thereby reducing labour costs.

Whatever the reasons, a key condition of its success, therefore, is that it can replicate the outcomes achieved by human workers. Making this point does not commit one to “AI fallacy”, the misleading belief that intelligent machines replace humans by replicating human skill use (Susskind and Susskind, 2015). It might well be that machines achieve similar results as humans via different mechanisms. It remains true, however, that successful outcomes in the labour process remain the baseline condition for the deployment of any workforce, human or digital. Predictions about technological unemployment rely on assumptions about the ways in which human workers achieve the outcomes expected in their jobs. The core concepts in discussions of technological unemployment therefore are those of skill, task, job, occupation and industry (Deranty & Corbin, 2022, p.4).

2.2.1 The Implications of AI in the Workplace

Based on the comprehensive 2024 OECD report on AI in the workplace, several key points emerge regarding the impact of AI on work environments. The document highlights both opportunities and risks associated with AI adoption. On the positive side, AI can significantly enhance productivity and job quality, with 80% of workers reporting improved performance and 60% noting increased job satisfaction due to AI. However, there are also substantial risks to consider. These include potential job displacement, with about 27% of jobs at high risk of automation, and concerns about privacy breaches, bias and discrimination, and reduced worker autonomy. The report emphasises the need for transparent and explainable AI systems, as well as clear accountability measures. It also stresses the importance of social dialogue and worker consultation in AI implementation, noting better outcomes in firms that involve workers in the process. (OECD, 2024)

To address these challenges, the OECD suggests various policy directions, including skills development programs, targeted support for vulnerable workers, strengthening data protection regulations, and establishing ethical guidelines for AI use in the workplace. The document underscores the rapid pace of AI development and the urgent need for coordinated international efforts to ensure responsible and beneficial AI integration in labour markets (OECD, 2024).

AI is rapidly transforming Irish organisations across various sectors, from technology and finance to retail and healthcare. In response to competitive pressures and post-pandemic workforce challenges, many Irish multinationals are incorporating AI to enhance operational efficiency, address skill shortages, and simplify processes. ‘‘More than one quarter of Irish employers have introduced AI to their recruitment processes, according to new research from hiring platform IrishJobs’’ (O'Donovan, 2024). The advance of technology in recent years has brought these changes. Chatbots were one of the first applications of AI. ‘‘The first chatbot is generally considered to be ELIZA, created by Joseph Weizenbaum at MIT and released in 1966. ELIZA simulated conversation by using pattern matching and substitution methodology, which gave the illusion of understanding. It would rephrase user inputs as questions or statements, tricking some users into believing they were chatting with a real human’’ (Clark, 2023).

Fast-forward to 2025, there have been some major advancements in the use of AI, particularly in the last 3 or 4 years. This mainly stems from the introduction of ChatGPT in 2022. ‘‘ChatGPT marks a special chapter in the history of AI. ChatGPT, short for Chatbot Generative Pre-training Transformer, is an advanced conversational AI model developed by OpenAI. It operates using deep learning techniques of GPT to allow it to simulate human-like text generation. It understands and replies to human language, enabling it to engage in conversations and perform various text-based tasks’’ (*Artificial Intelligence (AI) And ChatGPT Timelines,* 2024).

2.3 Theoretical Perspectives of Job Automation and AI

The increasing use of AI and job automation has raised debates on its implications for businesses, workers, and society. There are several theoretical perspectives that explain how technology shapes work, employment patterns, and economic structures. These theories offer a variety of perspectives on whether automation is beneficial or disruptive and how organisations can manage technological change.
The key theoretical frameworks include, among many, the following, which contextualise AI and automation of jobs:

Technological Determinism: Technological determinism is the idea that technology shapes society, culture, and history in a major way, almost as if technology has a mind of its own and drives progress whether people like it or not. It suggests that new inventions (like the internet, smartphones, or AI) change how we live, work, and interact, often in ways we cannot fully control. Some believe technology is the main force behind social change, while others argue that humans still have a say in how technology is developed and used (Hallström, 2022).

Socio-Technical Systems Theory: Socio-technical systems theory is the idea that technology and society are deeply connected and influence each other. It argues that one cannot just look at technology by itself, one must consider people, organisations, and social structures that shape how it's designed, used, and evolves. Instead of technology alone driving change (like in technological determinism), this theory sees technology and society working together, with human choices, workplace dynamics, and even culture playing a big role in how technology functions in the real world (CredoAI, 2024).

Human Capital Theory: Human capital theory is the idea that people's skills, knowledge, and education are like valuable assets, just like money or machines, that help drive economic growth and personal success. It suggests that investing in education and training makes individuals more productive, leading to better jobs, higher wages, and a stronger economy. In simple terms, the more you learn and develop your abilities, the more "valuable" one becomes in the job market (Ross, 2024).

2.3.1 Technological Determinism

Technological determinism, the belief that technology is the primary driver of societal change, has gained renewed attention in Ireland with the rapid advancement of AI.

''The origins of technological determinism can be traced back to the early 20th century, when a group of scholars began exploring the relationship between technology and society. This group, known as the Frankfurt School, argued that technology was becoming increasingly dominant in modern society, and that it was having a profound impact on human behaviour''. (Hutchins, 2023, p.1). According to Burnett and Marshall (2003), Technological Determinism suggests that dominant technologies, particularly communication technologies, inevitably drive major social and cultural changes. While technology can have both positive and negative impacts, its influence is undeniable. Supporters highlight its potential benefits, while critics warn of its risks, as seen with nuclear technology.

As Ireland positions itself as a hub for AI innovation and adoption, the concept of technological determinism is becoming increasingly relevant. The Irish government's National AI Strategy recognises the potential of AI to enhance socio-economic wellbeing and boost business productivity, while also acknowledging the need for an ethical, human-rights-based approach (AI Strategy, 2024). Recent studies suggest that AI could significantly impact the Irish job market, with up to two-thirds of employment potentially affected (Byrne et al., 2024). This has led to concerns about job displacement and the need for widespread upskilling. The Irish government is actively promoting a national conversation on AI, by appointing Ireland's first AI Ambassador, and joining the Global Partnership on AI (AI Strategy, 2024). This indicates a recognition that while AI technology is a powerful force for change, it's development and impact are not predetermined but can be shaped by societal choices and policy decisions.

2.3.2 Socio-Technical Systems Theory

Socio-technical systems theory offers a valuable framework for understanding the connection between AI and Job Automation. This perspective emphasises that AI and automation technologies do not operate in isolation but interact closely with organisational structures, work processes, and human workers. As these technologies are introduced, they often lead to significant changes in work design, job roles, and decision-making processes, potentially creating a "sociotechnical reversal" where technology increasingly dominates and constrains social aspects of work (Fischer et al., 2023).

The socio-technical approach encourages a closer look of how AI and automation alter task allocation, required skills, worker autonomy, and team dynamics, while also considering ethical implications, potential biases, and impacts on worker well-being. By applying this lens, organisations and policymakers can develop more extensive strategies that maximise the benefits of AI and automation technologies while mitigating potential negative impacts on workers and society, ultimately guiding more responsible AI development and implementation in the workplace. (Fischer et al., 2023)

2.3.3 Human Capital Theory and Skill Displacement

Human capital theory and its relationship to AI and job automation is a complex and evolving topic that has significant implications for the future of work. Human capital theory explores the idea that investments in education, training, and skills development enhance worker productivity and earnings. However, due to Ireland's evolving technological landscape, this relationship is being changed due to the increasing prevalence of automation and AI.

Recent research indicates that Ireland faces significant challenges related to skill displacement, with one in three jobs at high risk of disruption by digital technologies. (Bukartaite & Hooper, 2023) This is particularly noticeable in certain regions, with the Midlands and Border areas most vulnerable to automation-induced job losses. (National Skills Council, 2018) Ireland has a strong knowledge economy with 18% of the workforce overqualified for the jobs they do. (Bukartaite & Hooper, 2023) This is attractive to the large international technological, pharmaceutical and manufacturing organisations that have relocated to Ireland in recent years due to generous tax breaks.

There is a growing demand for digital skills across most sectors of the Irish economy, yet only 7% of further and higher education awards were made in science and 8% in ICT in 2019 (Bukartaite & Hooper, 2023). This gap highlights the urgent need to invest in human capital

and ensure they have the skills needed for the jobs of the future. The National Skills Bulletin (2023) highlights the rapid recovery of Ireland's labour market post-pandemic, driven by both migration and increased labour force participation. (McNaboe et al., 2023) However, it also highlights the growing need for higher education, especially for those in managerial, professional, and specialist roles. (McNaboe et al., 2023) This trend aligns with human capital theory but also raises questions about the adaptability of the current workforce to emerging technological challenges.

2.4 AI and Automation in Ireland: An Overview

The Irish job market in 2025 is experiencing a significant transformation due to AI, with 35% of employers already utilising AI technologies. This adoption is expected to contribute €48 billion to Ireland's economy by 2025. Contrary to job loss fears, 51% of Irish employers anticipate AI creating more roles than it replaces, with a projected 20-25% year-over-year increase in AI job postings (search, 2025). The demand for AI-related skills, particularly in machine learning and programming languages like Python and R, has surged, with machine learning skills seeing a 383% growth in demand (Balloun, 2025).

AI is changing various sectors, including financial services, healthcare, and energy. However, challenges persist, with 40% of Irish companies struggling to find qualified AI talent (Dooley, 2025). The government's €1.5 billion investment in tech training and initiatives to promote diversity in AI roles (aiming for 25-30% female representation) are set to further boost the sector. Despite these challenges, 75% of business leaders expect an increase or no net impact on jobs due to generative AI, indicating a promising future for AI-related employment in Ireland.

Table 1. PwC GenAI Survey 2025

Metric	Percentage (%)
Started AI Journey	98
Deployed AI at Scale	6
Implementing AI in Specific Areas (Current)	23
Implementing AI in Specific Areas (Previous)	19
Testing Specific Solutions (Current)	44
Testing Specific Solutions (Previous)	27
Improved Operational Efficiencies	40
Increased Productivity	30
Productivity Increase > 5% (GenAI)	81
Enhanced Product/Service Quality (Next Year)	68
Profitability Gains > 5%	43

The table and bar chart summarises the findings from the PwC (2025) survey on AI adoption and its impacts among Irish organisations. It is summarised as follows:

- AI Adoption:
  - 98% of Irish organisations have started their AI journey.
  - Only 6% have deployed AI technologies at scale.
- AI Implementation Progress:
  - 23% are currently implementing AI in specific areas, up from 19%.
  - Testing specific solutions has risen significantly from 27% to 44%.
- Operational Benefits:
  - 40% report improved operational efficiencies.
  - 30% note increased productivity.
- Generative AI (GenAI) Expectations:
  - 81% expect a productivity increase of over 5%.
  - 68% predict enhanced product and service quality within the next year.
  - 43% forecast profitability gains exceeding 5%.

These findings highlight the rapid adoption of AI in Ireland, with many organisations still in pilot phases but showing significant progress and optimism about future benefits.

According to the National AI Strategy (2024), Ireland sees a huge opportunity from expected developments in AI technology in the next five years. We have been preparing for the next generation of AI for several years and have put good safeguards in place. We believe our strong innovation ecosystem, excellent and responsive skills infrastructure and commitment to ethical and human-centric AI, position us well to benefit from the AI revolution, and importantly, to make sure that our workforce is well prepared.

2.5 The European Union's role in AI Development

Ireland's position in the adoption and integration of AI technologies within the European Union (EU) reflects both strengths and challenges when compared to other EU countries. According to the findings from the European Enterprise Survey (2021) on AI usage, several key aspects emerge regarding Ireland's AI landscape:

AI Adoption Rates

In Ireland, approximately 14% of enterprises are reported to use at least two AI technologies. This figure is relatively low compared to other EU nations, with countries like Czechia showing a much higher adoption rate of 40% for two or more technologies. The overall average for the EU stands at about 42% for using at least one AI technology, indicating that Ireland is trailing behind in this aspect. While 14% of Irish enterprises utilise two or more AI technologies, a significant portion of businesses may only be adopting one type of AI technology, which suggests a lack of diversification in AI applications within Irish firms (Kazakova et al., 2021).

Sector-Specific Insights

The adoption of AI varies significantly across different sectors. In Ireland, sectors such as information and communication technologies (ICT) and financial services are more likely to adopt AI solutions. However, sectors like construction and agriculture lag behind, similar to trends observed in other EU countries. The ICT sector leads in AI adoption across Europe, with 63% of enterprises in this sector using at least one form of AI technology. This trend is reflected in Ireland as well, where tech-oriented companies are more inclined to leverage AI for competitive advantage (Kazakova et al., 2021).

The European High Performance Computing Joint Undertaking was created in 2018 with a view of making the EU a world leader in supercomputing. It has already procured nine supercomputers located across Europe and intends to open 7 AI factories with further factories planned. Regardless of their location, European Scientists and users from the public sector can access them to advance science and to support a wide range of applications with industrial, scientific and societal relevance for Europe (EuroHPC, 2024).

Awareness and Future Plans

Awareness of AI technologies in Ireland is high, aligned with the EU average where 78% of enterprises report understanding what AI entails. However, awareness does not directly translate into adoption, as evidenced by the lower figures for actual usage. About 18% of Irish enterprises that do not currently use AI plan to adopt it in the next two years. This aligns closely with EU averages but highlights a potential growth area for Irish businesses if they can overcome existing barriers to implementation (Kazakova et al., 2021).

The European Commission has laid out ambitious goals for 2030, aiming for at least 90% of EU small to medium-sized enterprises to achieve at least a basic level of digital intensity and for 75% of EU countries to adopt technologies like cloud computing, AI and big data. Whether Ireland reaches these targets remains to be seen (EuroHPC, 2024).

Barriers to Adoption

Irish enterprises face several internal and external barriers to adopting AI. A significant number of companies cite difficulties in hiring staff with the necessary skills as a major barrier. The financial burden associated with implementing new technologies is also a prevalent concern. Many businesses express apprehension regarding regulatory frameworks surrounding AI usage, which can hinder investment decisions (Kazakova et al., 2021).

When compared to other EU countries, Ireland's challenges are somewhat consistent with those faced by other nations; however, the specific impact and prioritisation of these barriers can vary. For example, countries like Malta report even lower adoption rates and may face different regulatory environments that could influence their strategies differently than those in Ireland (Kazakova et al., 2021).

According to Lilyanova, researcher at the European Parliamentary Research Service, Europe's slow adoption in sectors such as health care and Public Administration is a weakness and she identifies the challenges that hinder broader AI uptake including regulatory barriers, trust issues, a shortage of digital skills and low levels of company digitalisation (Cingari, 2024).

In summary, while Ireland shows promise in terms of awareness and sector-specific adoption of AI technologies, it faces significant challenges that may impede broader implementation across various industries. Increased focus on skill development, cost management, and navigating regulatory landscapes will be crucial for enhancing Ireland's competitiveness in the AI domain within the EU context.

2.6 Government Support, Policies and Ethical Challenges

Accenture's 'How generative AI can power Ireland's reinvention', tells us five key areas where the Irish government can help create conditions for organisations to realize the full potential of generative AI.

1. The government should prioritise investments in sectors where Ireland has a comparative advantage, such as life sciences and ICT, to maintain competitiveness.

2. Expanding AI education in school curricula and supporting lifelong learning pathways are crucial, as Ireland needs to address lagging R&D and education funding compared to European peers.

3. The government should work to unblock bureaucratic delays, speed up energy connections, and increase zero-carbon energy supply to meet growing demand from data centres while balancing environmental goals.

4. Establishing clear structures for transparency and security is essential to build public trust, and the government could consider creating an AI regulatory advisory group to help organisations navigate regulations.

5. The government can play a vital role in driving innovation, particularly in helping SMBs adopt AI, through initiatives like innovation advisory groups and public-private partnerships. The report emphasises that coordinated action across these areas is necessary to position Ireland at the forefront of the AI era and capture its full economic potential (Accenture, 2024).

2.6.1 Labour Transformation

According to an article by Lene Pettersen (2018), one current AI discussion concerns whether AI will replace human jobs. However, having machines carry out or replace people's work is not new; this was a key characteristic of the Industrial Revolution where Fordism meant automation and assembly lines - out with skilled craftspeople and slow work and in with a new machine-made era. The AI discussion about the automation of work typically echoes Frey and Osborne's (2013) prediction that 47% of today's jobs will be replaced by AI. However, many seemingly overlook that the Organisation for Economic Co-operation and Development (OECD, 2024) reduced this prediction from 47% to 10% for most countries worldwide, arguing that a significant portion of automatization has already occurred, and that Frey and Osborne assume that entire occupations, rather than single job tasks, will be automated by technology'' (Pettersen, L.2018).

2.6.2 Ethical Challenges with Job Automation and AI

There are many ethical challenges associated with AI replacing jobs, such as unemployment rising, unfair hiring practices, lack of transparency and lessening humans' ability for critical thinking. To analyse this from an ethical standpoint, we must look at this across 5 dimensions of ethics, beneficence, non-maleficence, justice, autonomy and explicability (Deranty & Corbin, 2022, p.11).

Beneficence

The ethical principle of beneficence, rooted in moral philosophy and codified in modern professional ethics, represents a commitment to act in ways that promote the well-being of others. Emerging from Latin origins (*bene facere*, meaning "to do good"), beneficence has evolved into a big part of ethical frameworks across healthcare, research, and social policy. This principle orders us to not merely avoid harm but actively advance the welfare of individuals and communities. Its significance lies in its capacity to balance compassion with accountability, ensuring that interventions prioritise the interests of those they serve. With this principle ''there can be significant benefits for employees when AI use supports the various dimensions of meaningful work. When AI amplifies a worker's skills it can support them to complete their tasks, undertake more complex tasks, and utilise higher-order thinking and analysis skills'' (Deranty & Corbin, 2022, p.11).

Non-Maleficence

According to the principle of non-maleficence, AI can cause harm when it diminishes or eliminates opportunities for meaningful work. Two key pathways pose the greatest risk in this regard. First, when AI takes over certain tasks, it can lead to a decline in task integrity, deskilling, reduced task significance, and restricted autonomy, especially when it assumes more complex responsibilities without providing workers with equally engaging or meaningful alternatives. Complex tasks are often central to the work process, requiring diverse skills, and their removal can distance workers from the results of their labour, diminishing their sense of

impact. In the worst-case scenario, AI may fully replace jobs, depriving individuals of paid meaningful work, severing social connections, and denying them the chance to apply their talents in ways that benefit others (Deranty & Corbin, 2022, p.11).

Autonomy

AI can enhance workers' autonomy by freeing workers from routine tasks, helping them develop new skills, and giving them more control over their work. When AI is used to handle repetitive tasks, assist in decision-making, or provide better data, employees can focus on more meaningful and engaging work. This can make their jobs more fulfilling and give them a greater sense of ownership over how they get things done. However, these benefits depend on whether workers have a say in how AI is introduced in their workplace. If AI is used primarily for surveillance and monitoring, it can have the opposite effect—making employees feel pressured to conform to the AI's expectations rather than working authentically. In some cases, they might even try to resist or find ways around the system. Ultimately, how AI is implemented determines whether it empowers workers or restricts their freedom (Deranty & Corbin, 2022, p.11).

Justice

The Justice principle is about making sure AI treats everyone fairly, creating opportunities rather than deepening divides. Right now, AI tends to benefit higher-skilled, well-paid workers by making their jobs more meaningful and engaging. Meanwhile, lower-skilled workers often experience the opposite, AI can make their work more monotonous or even put their jobs at risk. This imbalance isn't just about technology; it affects real people and their sense of purpose at work. When some gain while others lose, it can create divisions and weaken the connections that make workplaces strong. Ensuring AI's benefits and challenges are shared more fairly is key to building a future where work remains meaningful for everyone (Deranty & Corbin, 2022, p.11).

Explicability

The Explicability principle is all about making AI understandable, transparent, and accountable. When AI plays a major role in a worker's job—like in amplifying tasks, managing AI systems, or handling complex decision-making—problems arise if workers don't fully understand how it works. If they rely on AI but can't grasp its processes, especially when they're held responsible for its outcomes, it can limit their ability to use their skills effectively and reduce their sense of competence. This, in turn, could weaken the potential benefits AI offers. To prevent this, it's crucial to train workers not just on what AI does but also how it works, while also making sure accountability is clearly defined. This approach can help ensure AI contributes to a more meaningful work experience rather than creating frustration or uncertainty (Deranty & Corbin, 2022, p.11).

Chapter 3: Methodology

3.1 Introduction

This section of the paper will discuss the methodology that was used as part of the research. There will be an explanation of why the selected methods are suitable for achieving the study's goals. Discussion topics will include the research design, samples, data collection techniques, data analysis, ethical issues, and any methodology-related restrictions.

3.2 Research Design

A research strategy is the specific plan and methodology outlined in a research project to address the objectives and research questions, advance the field, and overcome barriers to progress. The research design can be derived from the research strategy. According to Ghauri, Grønhaug, & Strange (2020) a research design is a general plan that outlines how a researcher will go about answering the research questions. It specifies the type of research (e.g. exploratory, descriptive, or causal) and the objectives of the researcher.

There are many different techniques of research design. The research methodology uses several techniques, such as mixed methods, qualitative, and quantitative approaches. Every methodology uses a separate set of methods and tools for gathering and analysing data.

‘‘Qualitative research is a type of research that explores and provides deeper insights into real-world problems. Instead of collecting numerical data points or intervening or introducing treatments just like in quantitative research, qualitative research helps generate hypotheses to further investigate and understand quantitative data. Qualitative research gathers participants' experiences, perceptions, and behaviour. It answers the how’s and whys instead of how many or how much. It could be structured as a standalone study, purely relying on qualitative data, or part of mixed-methods research that combines qualitative and quantitative data. This review introduces the readers to some basic concepts, definitions, terminology, and applications of qualitative research’’ (Tenny et al., 2022, p.1).

On the other hand, Quantitative research methods are used to observe events that affect a particular group of individuals, which is the sample population. In this type of research, diverse numerical data are collected through various methods and then statistically analysed to aggregate the data, compare them, or show relationships among the data. Quantitative research methods broadly include questionnaires, structured observations, and experiments (Sreekumar, 2023).

For my study on AI and Job Automation in Ireland: Navigating efficiencies, labour transformations and ethical challenges, I believe qualitative research is the most suitable for my investigation. This complex topic requires a deep understanding of people's experiences and opinions, which quantitative methods alone might not capture effectively. By using methods like case studies, we can explore how Irish businesses perceive and navigate these technological changes. Qualitative approaches are particularly valuable for examining the significant ethical questions surrounding AI adoption, which often involve personal values and judgments that are difficult to quantify. Moreover, these techniques allow us to discover AI's impact in Ireland, considering cultural, economic, and social factors that influence workforce transformation. Given the rapidly evolving nature of AI and automation, qualitative methods offer the flexibility to adapt our research as new issues emerge, ultimately providing a richer,

more detailed understanding of how these technologies are influencing the Irish workplace landscape.

3.3 Data Collection Method

Case studies are a highly valuable research method, offering several unique benefits, especially in areas like business, social sciences, healthcare, and education. By zeroing in on one specific situation or a small group of cases, case studies allow researchers to explore the details and complexities of real-life scenarios. This approach provides insights that might be hard to uncover through other methods. Here are some of the key reasons why case studies are such a powerful tool in research. According to Jennifer Rowley (2002, Vol. 25 No. 1, pp. 16-27), ‘‘they are widely used because they may offer insights that might not be achieved with other approaches. Case studies have often been viewed as a useful tool for the preliminary, exploratory stage of a research project, as a basis for the development of the ‘more structured’ tools that are necessary in surveys and experiments’’

3.3.1 Case Studies

For this research, case studies were used as the main method of data collection. I selected several organisations that have implemented AI and automation in their operations, aiming to understand how these technologies are shaping their day-to-day activities. Semi-structured interviews were intended to be the main data collection method, however, due to lack of access to key personnel and time and geographical constraints, case studies were chosen to be the best option.

The case study process involved in-depth exploration through desk research of how AI is being used in each organisation. I looked closely at how AI was integrated into different areas of the organisations from secondary research, including company reports, websites and news articles. This included understanding how AI improved efficiency, accuracy, and scalability, as well as how it impacted customer interactions and overall business operations. I also explored how AI has changed the nature of work within these organisations, whether it has created new roles, made some positions obsolete, or shifted the skills employees need to thrive.

A key part of the research also focused on the ethical side of AI. I examined how the organisations ensured fairness, reduced bias, and maintained transparency in their AI systems, as well as how they made sure their practices complied with relevant laws and regulations.

Overall, these case studies allowed me to get a real-world perspective on how AI is transforming businesses, the workforce, and ethical standards in meaningful ways.

3.4 Data Analysis Method

For selecting the case studies, I used a purposive sampling approach to ensure that organisations were chosen that could provide valuable insights relevant to our research. I focused on organisations that had integrated AI and automation into their operations in meaningful ways, to enable me to acquire the most meaningful data to explore the research questions.

The first step was to identify companies actively using AI technologies. I did this through a mix of industry reports and desk research. I examined Irish organisations from various industries to get a broad range of perspectives, making sure to select a cross section of smaller and larger companies with different levels of AI adoption.

After narrowing down the options, I screened the organisations based on factors like the scope of their AI implementation and the relevance of their practices to the study's focus. I also considered the stage of AI adoption, whether they were just starting out or had been using AI for a longer period. This helped me to capture a variety of experiences, from the challenges of initially incorporating AI into the organisation to the lessons learned by those organisations who were further along in its implementation.

3.4.1 Case Study Selection

Reasons for choosing these organisations

All the organisations have a large, highly educated workforce based around the world so labour transformation would be an important consideration for them to maintain productivity in the transitional phase of job automation. In general, these organisations have a committed workforce who might be more open to change and upskilling.

The importance of a variety of sectors

For the purposes of my thesis, I felt that selecting a cross section of organisations was important to get a more varied overview of their multi-dimensional operations and how they are managing the integration of AI into their large organisations. What all these companies have in common is that they all have a public interface who will ultimately benefit from the faster and modern operation. Improvements in AI will also be able to monitor the profiles, preferences and feedback of the end users and stakeholders which will enable these organisations to plan future initiatives.

Kerry Group is a global food and beverage leader. AI helps them optimize supply chains, improve food safety, and develop innovative products tailored to consumer preferences.

Ryanair is Europe's largest low-cost airline, uses AI-powered chatbots for customer service, predictive maintenance for aircraft, and dynamic pricing models to keep fares competitive.

In healthcare, *ICON plc* is a multinational clinical research organisation that utilises AI to simplify drug development, analyse complex medical data, and improve patient recruitment for clinical trials.

In the financial sector, *Bank of Ireland* is using AI-driven fraud detection, personalised banking experiences, and automation to enhance customer support.

Some of their operations abroad are close to locations with key AI platforms where AI and job automation are at a more advanced stage than Ireland. Experience and resolutions for new working methodologies acquired at a local level will be easily transferred to their operations in Ireland.

Such large organisations have larger investment potential for research and development into advanced technologies surrounding AI and job automation and the resulting ethical implications.

By focusing on four key organisations, I gathered a diverse range of information that would provide a well-rounded understanding of how AI is being used in the real world, and the impact it is having on businesses and their employees.

3.4.2 The Four Case Studies

Kerry Group

Kerry Group, headquartered in Tralee, Ireland, is a global leader in taste and nutrition solutions for the food, beverage, and pharmaceutical industries. The company focuses on improving global health by reducing sugar and salt, increasing fibre intake, and addressing significant health challenges through innovative solutions. Kerry serves over 1.36 billion consumers annually, aiming to reach 2 billion by 2030. Its portfolio includes natural ingredients and technologies like Tastesense™, which reduces sugar naturally without compromising taste. With over 50 years of experience, Kerry operates 150+ innovation and manufacturing centres across 30+ countries, helping its customers create healthier, more sustainable products while addressing evolving consumer demands.

Table 2. Kerry Group Overview

Category	Details
Founded	1972, Listowel, County Kerry, Ireland
Headquarters	Tralee, County Kerry, Ireland
Business Segments	- Taste & Nutrition - Consumer Foods
Key Products	Food ingredients, flavours, dairy products, bakery mixes, proteins
Global Presence	Operates in over 140 countries with 137 manufacturing facilities worldwide
Revenue (2023)	€8.02 billion
Employees	~23,000

Ryanair

Ryanair Holdings plc is Europe's largest airline group, operating a fleet of 612 aircraft across 3,600 daily flights from over 90 bases. The company connects 230+ airports in 37 countries, carrying approximately 200 million passengers annually, with plans to grow this to 300 million by FY2034. Ryanair is the parent company of Buzz, Lauda, Malta Air, Ryanair, and Ryanair UK, offering the lowest fares in Europe while maintaining a strong focus on sustainability and efficiency. With an additional 340 Boeing 737s on order, Ryanair continues to expand its network and reduce its environmental impact through initiatives like lowering CO2 emissions per passenger kilometre. The airline revolutionises travel by making it affordable and accessible for millions of customers across Europe.

Table 3. Ryanair Overview

Aspect	Details
Headquarters	Dublin, Ireland
Founded	1984
Fleet Size	Over 612 aircraft, with plans to grow to 800+ during the "Decade of Growth"
Daily Flights	3,600+
Destinations	250+ airports across 37 countries
Annual Passengers	Over 183 million (targeting 300 million by FY2034)
Group Airlines	Ryanair DAC, Buzz, Lauda Europe, Malta Air, Ryanair UK
Business Model	Low-cost carrier focusing on affordable fares and operational efficiency
Sustainability Goals	Lower fares and reduced emissions

ICON plc

ICON plc is a global leader in healthcare intelligence and clinical research, headquartered in Dublin, Ireland. Founded in 1990, the company provides outsourced drug and device development and commercialisation services to pharmaceutical, biotechnology, medical device, and public health organizations. With a mission to accelerate the development of life-saving treatments, ICON offers expertise across all phases of clinical trials, from molecule to medicine. Operating in 106 locations across 55 countries, ICON employs over 41,900 professionals and has been instrumental in developing 18 of the world's top 20 best-selling drugs. Through continuous innovation and strategic acquisitions, such as PRA Health Sciences in 2021, ICON has solidified its position as a leading Contract Research Organization (CRO).

Table 4. ICON plc Overview

Category	Details
Headquarters	Dublin, Ireland
Founded	1990
Global Presence	Operates in 106 locations across 55 countries
Employees	Over 41,900 professionals
Core Services	Clinical development, consulting, and commercialization services
Specialized Solutions	Includes cardiac safety, early clinical bioanalytical solutions, site & patient recruitment, and specialty laboratory solutions
Therapeutic Focus	Expertise in precision medicine, oncology, obesity treatments, and biotech support

Bank of Ireland

Bank of Ireland, founded in 1783, is one of Ireland's oldest and most trusted financial institutions, serving communities across Ireland, Northern Ireland, Great Britain, and beyond. Headquartered in Dublin, the bank offers a wide range of services, from mortgages and loans to insurance and wealth management, helping individuals and businesses achieve their financial goals. With offices in global hubs like Paris, Frankfurt, and Chicago, Bank of Ireland combines local expertise with international reach. Known for its customer-first approach and commitment to sustainability, the bank continues to support families and businesses while addressing modern challenges. Fully privately owned since 2022, it remains an important part of Ireland's financial landscape.

Table 5. Bank of Ireland Overview

Aspect	Details
Headquarters	2 College Green, Dublin, Ireland
Founded	1783 by Royal Charter
Business Model	Diversified financial services group; relationship-driven retail and commercial banking
Key Segments	Retail Ireland, Wealth & Insurance, Retail UK, Corporate & Commercial Banking, Group Centre
Retail Ireland Services	Day-to-day banking services through branches, ATMs, digital platforms, and post office partnerships
Wealth & Insurance	Life assurance (NIAC), wealth management (Davy), and general insurance brokerage
Retail UK Services	Residential mortgages, asset finance, business banking, and FX partnerships with the UK Post Office

Chapter 4: Findings and Analysis

4.1 Introduction

This chapter represents the findings and analysis of the study, through desk-based case studies.

Since the pandemic, AI and automation have reshaped how businesses operate in Ireland, bringing efficiency, innovation, and new challenges. From food production to banking, companies are using AI to stay ahead in a rapidly changing world.

4.2 Summary of Findings

An overview of the findings for each organisation under the subheadings- operational efficiency, labour transformation and ethical challenges are listed below:

4.2.1 Operational Efficiency

Kerry Group

Kerry Group has achieved significant operational efficiency by integrating AI into product development and supply chain management:

The Kerry Trendspotter tool, developed with IBM Watson, analyses unstructured data from social media and other sources to predict food and beverage trends. This innovation reduced product development time by over 50%, cutting timelines from 6–9 months to under two months. It also helped reduce the failure rate of new product launches, which can be as high as 85%. A pilot program using Microsoft 365 Copilot saved employees approximately 1 hour and 20 minutes per week by automating repetitive tasks such as summarising presentations and managing data in Excel. AI-driven tools have simplified operations across Kerry's global manufacturing facilities, improving order tracking and resource planning through platforms like KerryNow. Kerry (2019).

Ryanair

Ryanair has focused on leveraging AI for customer service, crew management, and operational scalability:

Ryanair's AI-powered chatbot, developed using Amazon Lex and SageMaker, has successfully handled over 3 million customer interactions in multiple languages since its introduction in June 2018. An AI-powered employee app automates crew scheduling and communication, ensuring efficient staffing and reducing delays. This app also provides real-time access to training materials and regulations, improving workforce responsiveness. Ryanair plans to fully transition to digital boarding passes by the end of 2025. Currently, 80% of passengers already use this system, which is expected to eliminate airport check-in fees entirely. (Ryanair, 2025). AI systems dynamically scale resources based on demand, optimising cost management and ensuring efficient allocation during peak travel periods.

ICON plc

ICON plc has utilised AI extensively to improve clinical trial processes:

The One Search tool reduces site selection time by 53% and decreases non-enrolling or underperforming trial sites by up to 50%. This has significantly improved trial timelines while cutting unnecessary costs. The FORWARD+ tool optimizes resource allocation by providing visibility into demands and forecasts, enhancing overall project efficiency. Tools like Cassandra predict post-marketing requirements with up to 99% accuracy, helping pharmaceutical companies manage risks associated with regulatory compliance. (ICON, 2025)

Bank of Ireland

The Bank of Ireland has focused on using AI to enhance customer service and simplify financial operations:

By integrating a cloud-native loan platform, the bank reduced loan approval times from two days to under ten minutes while cutting manual intervention by 60%. The Next Best Action (NBA) engine uses predictive analytics to recommend personalised financial solutions based on customer behaviour. This has improved decision-making speed and customer satisfaction. Investments in voice biometrics and fraud prevention technology have enhanced security while reducing operational inefficiencies.

Table 6. Comparison of companies – Operational Efficiency

Aspect	Kerry Group	Ryanair	ICON plc	Bank of Ireland
Focus Area	Product development & supply chain	Customer service & crew management	Clinical trial optimization	Financial services
Time Savings	Reduced product dev time by >50%	Faster customer query resolution	Site selection time cut by 53%	Loan approval time cut by >90%
Cost Reduction	Lowered failure rates for products	Reduced staffing inefficiencies	Reduced non-performing sites	Reduced manual processing costs
Scalability	Global supply chain optimization	Dynamic resource scaling	Optimized resource allocation	Faster rollout of new services

4.2.2 Labour Transformation

The four companies, Kerry Group, Ryanair, ICON plc, and Bank of Ireland have implemented AI and automation technologies that have significantly transformed their workforce. Below is a detailed analysis of how these organisations have adapted their labour structures, focusing on upskilling, new roles, and the evolving nature of work.

Kerry Group

Kerry Group has focused on preparing its workforce for AI-driven technologies through education and training initiatives. For example, the integration of Microsoft 365 Copilot required employees to learn how to effectively use generative AI tools for tasks like summarizing presentations and managing data in Excel. The company emphasized change management to foster a culture of innovation, ensuring employees felt empowered rather than threatened by AI adoption. Employees saved approximately 1 hour and 20 minutes per week on repetitive tasks, allowing them to focus on more strategic activities such as product innovation and customer engagement. Kerry's investment in its Digital Centre of Excellence highlights the creation of new roles focused on integrating digital solutions across operations, R&D, and commercial activities.

Ryanair

Ryanair's labour transformation focuses on automating routine tasks while enabling employees to focus on higher-value responsibilities: The airline's AI-powered employee app automates crew scheduling and communication, reducing operational inefficiencies. This allows staff to concentrate on decision-making and customer interactions that require human expertise. By deploying chatbots for routine enquiries, Ryanair reduced the workload on human agents while maintaining a seamless transition for complex queries requiring human intervention. Automation has freed employees from repetitive tasks, enabling them to focus on operational decisions during flight disruptions or customer escalations.

ICON plc

ICON plc has transformed its workforce by creating specialised roles and promoting upskilling.

ICON plc introduced positions such as AI Specialists, Data Scientists, and AI Champions to leverage AI tools like One Search and FORWARD+. These roles focus on optimizing clinical trial processes and predictive analytics. The company implemented AI literacy programs to ensure employees could effectively use AI tools for data analysis, patient recruitment insights, and trial design optimization. By automating administrative tasks, employees can dedicate more time to patient engagement, innovation, and problem-solving. ICON plc actively involved employees in the implementation of AI systems, fostering adaptability and empowerment.

Bank of Ireland

The Bank of Ireland (BOI) has prioritised workforce transformation through recruitment and human-centric policies. BOI created 100 technology positions in areas like cybersecurity, data analytics, cloud computing, and engineering to support its digital transformation initiatives. Employees were provided with extensive training in emerging technologies such as AI and APIs to prepare them for evolving job demands.

In collaboration with the Financial Services Union (FSU), BOI introduced a policy emphasising transparency in AI-related changes to job roles. Upskilling opportunities were prioritised to ensure employees could adapt to new technologies without fear of displacement.

Table 7. Comparison of companies – Labour Transformation

Aspect	Kerry Group	Ryanair	ICON plc	Bank of Ireland
Workforce Focus	Upskilling for internal tools	Higher-value task focus	Specialized roles (AI Specialists)	Recruitment for tech positions
Training Initiatives	Change management & education	Automated crew management	AI literacy programs	Reskilling & career guidance
New Roles Created	Digital transformation specialists	Operational decision-making	Data Scientists & AI Champions	Cybersecurity & cloud engineers
Employee Empowerment	Cultural shift toward innovation	Focus on decision-making	Collaboration in implementation	Transparent human-centric policy

4.2.3 Ethical Challenges

Kerry Group

Kerry Group's use of AI tools like Trendspotter involves analysing vast amounts of unstructured consumer data from social media and other platforms. This raises concerns about how consumer data is collected, stored, and used, particularly regarding privacy and consent. There is potential for bias in AI-driven decision-making processes, such as product development recommendations. Ensuring fairness and inclusivity in these systems remains a priority. Kerry Group emphasizes transparency in its AI systems to mitigate ethical concerns, ensuring that employees and stakeholders understand how AI decisions are made.

Ryanair

Ryanair's mandatory facial recognition policy for account creation has sparked significant controversy. Critics argue that the system violates GDPR principles like data minimization, purpose limitation, and consent. The airline faces a potential €450 million fine for these alleged breaches. Concerns have been raised about excessive data retention in Ryanair's biometric systems, highlighting the need for clearer policies on how long personal data is stored and for what purposes. The pre-selection of facial recognition as the primary verification method has been criticized for potentially removing free choice in consent.

ICON plc

ICON plc's reliance on AI tools like Cassandra to predict post-marketing requirements and optimize clinical trials raises concerns about algorithmic bias, which could impact patient recruitment or trial outcomes. ICON plc has proactively addressed ethical challenges by establishing an AI Ethics Committee to oversee responsible deployment and ensure

transparency in decision-making processes. By actively involving employees in AI implementation and promoting upskilling through literacy programs, ICON plc mitigates ethical concerns related to job displacement and automation's impact on workers.

Bank of Ireland

BOI's human-centric AI policy emphasises transparency by clearly communicating how AI affects job roles and decision-making processes. This approach builds trust among employees and customers alike. The adoption of AI-driven systems like the Next Best Action (NBA) engine raises questions about equitable treatment of customers and employees, ensuring that benefits are distributed fairly across different groups. The Financial Services Union (FSU) plays a key role in ensuring that employees have a voice in how AI impacts their work, addressing concerns about fairness and accountability.

Table 8. Comparison of companies - Ethical Challenges

Aspect	Kerry Group	Ryanair	ICON plc	Bank of Ireland
Key Ethical Concern	Data privacy & algorithmic bias	GDPR compliance & consumer consent	Bias in clinical research	Transparency & fairness
Transparency Measures	Emphasized through clear policies	Limited due to facial recognition issues	Oversight via Ethics Committee	Human-centric AI policy
Regulatory Scrutiny	Minimal	Potential €450M GDPR fine	Proactive ethical governance	Collaboration with FSU
Employee Impact	Focused on workforce empowerment	Automation raises job displacement risks	Upskilling mitigates displacement risks	Reskilling opportunities provided

Chapter 5: Discussion

This chapter discusses the main findings of the study, from existing literature and insights gained from case studies. The primary aim is to discuss the operational efficiency, labour transformation and ethical challenges associated with AI and Job Automation in Irish Organisations. This chapter also highlights the practical implications of these findings for organisations, addresses the limitations of the study, and suggests areas for further research.

The main findings and emerging trends in AI and job automation relating to Kerry Group, Ryanair, ICON plc, and Bank of Ireland are outlined as follows:

5.1 The Impact of AI on Operational Efficiency

The trends emerging from the operational efficiency results across Kerry Group, Ryanair, ICON plc, and Bank of Ireland highlight a transformative shift in organisational processes driven by AI adoption. A common theme is the acceleration of workflows and reduction of manual intervention, enabling faster and more accurate outcomes. For example, Kerry Group's AI-powered Trendspotter tool reduced product development times by over 50%, while ICON plc's One Search tool cut clinical trial site selection times by 53%. Similarly, Bank of Ireland's AI-driven loan processing platform reduced approval times from two days to under ten minutes, showcasing how automation can simplify traditionally time-intensive tasks. This aligns closely with the 2024 OECD report – 80% of workers reporting improved performance and 60% noting increased job satisfaction due to AI (OECD, 2024)

Another trend is the enhancement of scalability and resource optimising, as seen in Ryanair's dynamic resource allocation systems that adjust based on demand, ensuring cost efficiency during peak periods. Across all organisations, AI has also improved decision-making capabilities, with predictive analytics tools like Bank of Ireland's Next Best Action engine and ICON plc's Cassandra system offering tailored solutions to customers and precise regulatory predictions. These advancements underline a broader trend of AI enabling organisations to focus on higher-value activities while maintaining operational excellence. This also linked with the ethical principle of Autonomy. ‘‘When AI is used to handle repetitive tasks, assist in decision-making, or provide better data, employees can focus on more meaningful and engaging work.’’ (Deranty & Corbin, 2022, p.11)

The operational efficiency results aligns closely with the theoretical perspectives and empirical findings presented in the literature review. The case studies highlight how AI has transformed organisational processes, reduced inefficiencies and enhanced productivity, which resonates with the principles of technological determinism Burnett and Marshall (2003). This theory supports the idea that technology drives societal and organisational changes, as evidenced by Kerry Group's use of AI-powered tools like Trendspotter to cut product development timelines by over 50% and reduce failure rates for new launches. Similarly, Ryanair's integration of AI for customer service and crew management reflects the deterministic view that technology can reshape traditional workflows, enabling scalability and cost-effectiveness.

5.2 Workforce Adaption and Labour Transformation

The trends in labour transformation across Kerry Group, Ryanair, ICON plc, and Bank of Ireland reveal a significant shift in workforce dynamics driven by AI adoption. A common theme is the emphasis on upskilling and the creation of new roles that complement AI technologies rather than replacing human labour outright. For example, ICON plc introduced specialised positions such as AI Specialists and Data Scientists to use tools like One Search and Cassandra, while Kerry Group focused on training employees to use generative AI tools like Microsoft 365 Copilot. Similarly, the Bank of Ireland created over 100 technology roles in areas such as cybersecurity and data analytics, reflecting the growing demand for advanced digital skills. These initiatives align with broader trends in Ireland's labour market, where upskilling is increasingly necessary to adapt to technological advancements.

The transformation also highlights the importance of cultural shifts within organisations to foster adaptability and innovation. Kerry Group emphasised change management as a critical factor in successful AI integration, ensuring employees felt empowered rather than threatened by technological changes. ICON plc actively involved employees in AI implementation through literacy programs and designated AI Champions, promoting a culture of continuous learning. These efforts resonate with socio-technical systems theory, which underscores the need for balancing technological improvements with human-related factors. While Frey and Osbourne made (2013) the prediction that ''47% of today's jobs will be replaced by AI'', it appears that these companies are ensuring that their employees receive the necessary training to adapt to these AI changes, rather than fully replace them.

5.3 Ethical Considerations in AI Adoption

The trends emerging from the ethical challenges identified in the case studies of Kerry Group, Ryanair, ICON plc, and Bank of Ireland highlight both similarities and differences in how organisations approach AI ethics. A common trend across these companies is the heightened concern around data privacy and transparency, particularly regarding compliance with regulations such as GDPR. For example, Ryanair faced significant scrutiny over its mandatory facial recognition policy, which raised serious questions about consent, privacy and data retention. Similarly, Kerry Group's extensive use of consumer data through AI tools like Trendspotter has prompted concerns about privacy and transparency in data handling practices. These scenarios violate the 'Explicability' principle of ethics as the use of AI must be 'transparent' (Deranty & Corbin, 2022, p.11).

Another shared ethical concern is algorithmic bias, notably evident in ICON plc's operations. ICON's use of predictive analytics tools such as Cassandra raises potential issues around biased decision-making that could inadvertently affect clinical trial outcomes or patient recruitment processes. Bank of Ireland also acknowledges this risk through its human-centric AI policy, emphasizing transparency and fairness to prevent biased outcomes in customer interactions.

Despite these similarities, the companies differ significantly in their approaches to addressing ethical challenges. ICON plc and Bank of Ireland have proactively established formal governance frameworks, ICON through its dedicated AI Ethics Committee and Bank of Ireland via collaborative agreements with unions, to ensure responsible AI deployment. In contrast, Ryanair's approach has been more reactive, addressing ethical concerns primarily after external

scrutiny or regulatory intervention. Kerry Group places emphasis on internal transparency measures but has not yet demonstrated a structured oversight mechanism comparable to ICON or Bank of Ireland.

5.4 Limitations of the Study

The study has some limitations that should be considered in the broader context:

- The findings were based on 4 different case studies of Irish organisations. While these companies are based in Ireland, their operations are global. This might obscure the specific challenges and opportunities related to AI adoption in the Irish context alone.
- Case studies often provide rich qualitative insights but lack the quantitative data needed to assess broader economic impacts, such as job displacement rates or GDP growth related to AI adoption.
- A key limitation of this research lies in the disconnect between the theoretical framework used to analyse ethical challenges and the specific ethical issues observed in the case studies.

The theoretical framework employed in this study focused on abstract ethical principles, such as beneficence, non-maleficence, justice, autonomy, and explicability, which provide a high-level philosophical lens for understanding the ethics of AI. However, the ethical challenges faced by the organisations in the case studies, such as data privacy concerns at Ryanair, algorithmic bias risks at ICON plc, and transparency issues at Kerry Group, were more practical and operational in nature. This difference meant that while the theoretical framework was useful for framing broader ethical considerations, it did not fully align with the real-world, context-specific challenges encountered by these organisations. Future research could address this gap by integrating theoretical frameworks with practical applications, ensuring a more grounded and practical analysis of ethical challenges in organisational contexts.

5.5 Recommendations for Future Research

Future research on AI and job automation in Ireland should broaden its focus to include small and medium-sized enterprises (SMEs), which are vital to the Irish economy but often face distinct challenges in adopting AI due to limited financial and technological resources. These businesses represent a significant portion of Ireland's workforce, yet their experiences with AI adoption remain underexplored compared to larger corporations. Expanding research to cover diverse sectors such as agriculture, retail, and public services would provide a more comprehensive understanding of how AI impacts industries with varying levels of technological integration.

In addition, future studies should incorporate quantitative methods to complement qualitative insights, enabling a deeper analysis of economic impacts such as job displacement rates, productivity gains, and contributions to GDP. This data would offer a clearer picture of the long-term implications of AI adoption across the Irish economy.

Finally, future research should examine uniquely Irish factors shaping AI adoption, including local regulatory environments, rural connectivity challenges, cross border nuances, and cultural attitudes toward automation. By addressing these areas, future research can provide practical insights into how AI can transform Irish workplaces while ensuring a balanced approach to technological progress and workforce well-being.

Chapter 6: Conclusion

6.1 Summary of Key Findings

This thesis has examined the transformative impact of AI and job automation on Irish organisations, focusing specifically on operational efficiency, labour transformation, and ethical challenges in the post-pandemic era. Through detailed case studies of Kerry Group, Ryanair, ICON plc, and Bank of Ireland, the research demonstrates that AI technologies have significantly enhanced organisational efficiency by streamlining workflows, reducing manual intervention, and enabling faster decision-making processes. For ins, Kerry Group's Trendspotter tool drastically reduced product development timelines, while ICON plc's One Search platform significantly improved clinical trial site selection efficiency. Similarly, Ryanair's AI-driven customer service and crew management systems and Bank of Ireland's automated loan processing illustrate substantial productivity gains achievable through AI.

In terms of labour transformation, the findings highlight a clear trend towards workforce adaptation rather than outright displacement. Organisations have increasingly focused on upskilling initiatives and creating new roles that complement AI technologies. The introduction of specialised positions such as AI Specialists at ICON plc and technology-focused roles at Bank of Ireland underscores the necessity for continuous skill development to navigate technological change effectively. These developments align closely with human capital theory and socio-technical systems theory discussed in the literature review, emphasising the importance of balancing technological advancement with human-centred considerations.

6.2 The future of AI and Job automation in Ireland

Some findings were presented relating to evolving European Union structures that are at the forefront in leading the integration and future use of AI and job automation throughout the EU. It was noted that while Ireland was some way behind the European average in its assimilation of AI into organisations, the belief is that it will continue to improve with the guidance of the EU AI factories (EuroHPC,2024). Key areas where the Irish Government can support the acceleration of AI and job automation into Irish organisations were identified. Investment into Research and Development and Education were highlighted as a priority to assist organisations to compete on a local and international stage. The need for transparency and advanced regulatory and security systems is seen as fundamental to the successful integration of AI while maintaining the trust and support of the workforce.

6.3 Policy and Organisational Implications

In addition to the many opportunities that arise from embracing AI, significant ethical challenges need constant consideration. Issues such as data privacy concerns at Ryanair, algorithmic bias risks at ICON plc, and transparency in AI-driven decision-making at Kerry Group and Bank of Ireland reflect broader societal debates around responsible AI use. The study highlights varying organisational approaches to addressing these challenges—from proactive governance frameworks at ICON plc and Bank of Ireland to more reactive responses observed at Ryanair. Pro-active monitoring is imperative at Government level.

Despite providing valuable insights into these dynamics within major Irish organisations, this research acknowledges limitations related to its scope, particularly its focus on larger corporations with global operations, and recommends future studies include SMEs and a broader range of sectors. Additionally, incorporating quantitative analyses would further enhance understanding of AI's economic impacts.

6.4 Final Thoughts

What is clear from my research is that AI and job automation is already an integral part of the global economy. Ireland is fortunate to have the support of the EU in terms of upskilling and it has potential to revolutionize industries such as healthcare, finance, manufacturing and customer services. However, there is no room for complacency in the future management of the use of AI. It is essential that Irish organisations can harness its potential responsibly, while addressing the ethical concerns and ensuring that its benefits are broadly shared for the greater good of its stakeholders and society as a whole.

Declaración de uso de herramientas de Inteligencia Artificial Generativa en Trabajos de Fin de Grado

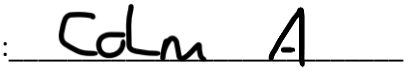
ADVERTENCIA: Desde la Universidad consideramos que ChatGPT u otras herramientas similares son herramientas muy útiles en la vida académica, aunque su uso siempre está bajo la responsabilidad del estudiante, ya que las respuestas que proporciona pueden no ser veraces. En este sentido, NO está permitido utilizarlas en la elaboración del Trabajo de Fin de Grado para generar código porque estas herramientas no son fiables en esta tarea. Incluso si el código funciona, no hay garantía de que sea metodológicamente correcto, y es muy probable que no lo sea.

Por la presente, yo, Colm Ayres, estudiante del Grado en Administración y Dirección de Empresas, con Mención Internacional (E4) de la Universidad Pontificia Comillas al presentar mi Trabajo de Fin de Grado titulado "AI and Job Automation in Ireland: Navigating Efficiencies, Labour Transformations and Ethical Challenges in Irish Organisations", declaro que he utilizado la herramienta de Inteligencia Artificial Generativa ChatGPT u otro código IAG similar herramientas solo en el contexto de las actividades que se describen a continuación

1. **Lluvia de ideas de investigación:** Se utiliza para idear y delinear posibles áreas de investigación.
2. **Referencias:** Se utiliza en conjunto con otras herramientas, como la ciencia, para identificar referencias preliminares que luego he contrastado y validado.
3. **Corrector de estilo literario y lingüístico:** Para mejorar la calidad lingüística y estilística del texto.
4. **Sintetizador y difusor de libros complicados:** Para resumir y comprender literatura compleja.
5. **Generador de problemas de ejemplo:** Para ilustrar conceptos y técnicas.

Afirmo que toda la información y el contenido presentado en este trabajo son producto de mi investigación y esfuerzo individual, salvo que se indique lo contrario y se hayan dado los créditos correspondientes (he incluido las referencias adecuadas en el TFG y he explicitado por qué se ha utilizado ChatGPT u otras herramientas similares). Soy consciente de las implicaciones académicas y éticas de presentar un trabajo no original y acepto las consecuencias de cualquier violación de esta declaración.

Fecha: 26 de marzo de 2025

Firma: 

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Appendix 1 -

Case Study 1 - Kerry Group

Operational Efficiency

Kerry Group and IBM have teamed up to create Kerry Trendspotter, a smart AI tool designed to predict future food and beverage trends. By analysing massive amounts of unstructured data, it helps businesses understand what consumers want—before they even know it themselves, so they can develop products that truly resonate with people. (Selby, 2019).

Using this platform, Kerry Group were able to create a new snack flavour solely from this new AI.

‘‘Kerry suggested the team pull data from Kerry Trendspotter, a new AI platform for the food industry developed by Kerry and IBM Watson which uses machine learning and natural language processing to turn millions of social media posts into unique and proprietary insights about upcoming food and beverage trends.

With the help of Kerry Trendspotter, it took less than three weeks to successfully crack the code of what snack flavour was trending in the country of sale, reducing the product development time by more than 50%.’’ (Kerry, 2019).

Kerry Group’s integration of AI through Kerry Trendspotter represents a significant advancement in data-driven product development within the food and beverage industry. By utilizing IBM Watson’s machine learning and natural language processing capabilities, the company can analyse vast amounts of unstructured consumer data to identify emerging trends with remarkable precision. The entire process from ideation to commercialization can be completed in under two months, down from six to nine months IBM (2024). By focusing on trends that are likely to become mainstream, Trendspotter helps reduce the high failure rates of new product launches, which are often as high as 85% (Neo, 2019).

Recently, Kerry Group has also announced the launch of a new Digital Centre of Excellence at its Global Innovation Centre in Naas, Co. Kildare, with support from a €7.5 million grant from Enterprise Ireland. This centre aims to boost efficiency and strengthen customer relationships by using advanced digital and AI-driven solutions across Kerry’s operations, R&D, and commercial activities. For the next two years, the company will expand its existing digital initiatives, such as the KerryNow customer portal, which helps businesses track orders, manage product portfolios, and develop new products using AI. Kerry sees this as a major step in its digital transformation, with Chief Business Transformation Officer Shane McGibney calling it ‘‘an exciting opportunity for growth’’. Enterprise Ireland’s Jenny Melia also highlighted the investment as a testament to Kerry’s commitment to innovation and its role in keeping Ireland at the forefront of the global food industry (Kerry, 2025b).

Labour Transformation

Kerry Group is also in the early stages of integrating generative AI into its digital transformation strategy. As part of this initiative, the company has conducted a pilot program using Microsoft 365 Copilot to enhance productivity by automating repetitive tasks in applications such as Excel and PowerPoint.

According to Ashling Sheridan, Data Science and Engineering Lead at Kerry Group, a key focus of the initiative has been preparing the workforce for AI-driven technologies, as their adoption is inevitable. However, the primary challenge has not been the technology itself but rather the organisational attitudes and cultural shift required for successful implementation. Change management and employee training have been critical factors, with support from EY in facilitating this transition.

The pilot has demonstrated measurable efficiency gains, with employees saving approximately one hour and 20 minutes per use case per week, particularly for tasks such as summarizing presentations and meetings. However, Sheridan emphasizes that AI tools like Copilot require continuous refinement to optimize results, particularly in terms of crafting effective prompts to enhance AI-generated outputs.

Ethical Considerations

Education and training have proven essential for a positive response from employees, ensuring they perceive tangible benefits from AI adoption. Kerry Group aims to improve overall productivity while also offering employees meaningful advantages, such as additional time for professional development or personal well-being. The company remains open to exploring the most effective ways to integrate AI to maximize both operational efficiency and employee satisfaction (Keane, 2024).

Kerry Group uses AI tools like Trendspotter which involves analysing vast amounts of consumer data from social media and other platforms. This raises concerns about how customer data is stored and used. Privacy and consent are also important considerations for Kerry Group. Kerry Group emphasises transparency in its AI systems to mitigate ethical concerns, understanding that employees and stakeholders understand how AI decisions are made.

Appendix 2

Case Study - Ryanair

Operational Efficiency

Ryanair partnered with Amazon Web services to integrate AI into their company in 2018.

Employee & Crew Management

According to CEO, Eddie Wilson, Ryanair has integrated AI into its workforce operations to enhance efficiency and simplify crew management. The airline developed an AI-powered employee app using Amazon Bedrock, allowing staff to quickly access essential information such as regulations and training materials. This eliminates the need to manually search through extensive documentation, improving operational responsiveness. Additionally, an AI-driven chatbot within the app provides real-time answers to crew queries, reducing delays and increasing productivity. AI also plays a significant role in automating crew scheduling and communication, ensuring that flights are staffed efficiently, and aircraft return to service without unnecessary delays. (Amazon Web Services, 2024)

Customer Service Automation

Also, according to Head of Service Design, Lee Redlin, "To enhance customer service, Ryanair introduced an AI-powered chatbot in June 2018, developed using Amazon Lex and Amazon SageMaker". This system allows passengers to receive instant support for common inquiries, including flight bookings, cancellations, and travel policies, in multiple languages. The chatbot follows an open-dialogue approach, meaning it engages in an ongoing conversation until the customer's issue is fully resolved. If AI is unable to provide a satisfactory response, the system seamlessly transfers the query to a human agent. Ryanair also adopted Amazon Connect to enhance customer service efficiency to reduce response times and maintain a cost-effective support system (AWS Partner Network, 2019)

AI in Operations & Scalability

AI has become an essential tool in optimising Ryanair's operational scalability. By utilising AI-powered applications on AWS, the airline can dynamically scale its resources up or down based on demand, ensuring efficient resource allocation and cost management. AI is also transforming search functionality, improving how customers book flights and access travel information. During flight disruptions, AI-driven systems provide real-time updates to passengers, improving communication and minimizing delays. These advancements contribute to a seamless and responsive travel experience (AWS Partner Network, 2019).

Labour Transformation

Ryanair has strategically implemented AI to drive cost reduction and operational efficiency. Through the automation of customer service processes, AI minimizes the workload on workers while ensuring customers receive timely and accurate assistance. AI-driven crew rostering and messaging systems further enhance scheduling efficiency, reducing operational disruptions. By using automation in these critical areas, Ryanair maintains its low-cost airline model, ensuring sustainable growth while continuing to improve service delivery.

Ryanair also plans to move to fully digital boarding passes by the end of 2025, according to CEO Michael O Leary. This means that from Nov 2025, Ryanair passengers will no longer download and print a physical paper boarding pass but will instead use the digital boarding pass generated in their "myRyanair" app during check-in. Today almost 80% of Ryanair's 200m passengers already use this digital boarding pass. As a result of this customer initiative, Ryanair expects to eliminate almost all airport check-in fees from Nov 2025, as all passengers will have checked-in online/in-app to generate their digital boarding pass (Ryanair, 2025).

Ethical Challenges

Ryanair have faced scrutiny over their facial recognition policy. Europe's leading budget airline is facing a potential €450 million fine following complaints filed with Italy's Data Protection Authority regarding its mandatory facial recognition policy. The controversy stems from Ryanair's account creation process, which requires customers to either undergo biometric facial recognition or submit handwritten signatures and government ID copies to book flights. Privacy advocacy group NOYB alleges multiple violations of the EU's General Data Protection Regulation (GDPR), including issues with data minimization, purpose limitation, and excessive data retention. The airline's two-option verification system, which pre-selects facial recognition as the primary method, has been criticised for potentially removing free choice in consent. If imposed, the fine would represent 4% of Ryanair's 2023 annual global revenue, making it one of the largest potential GDPR penalties in the aviation sector to date. This case underscores ongoing concerns about data privacy and consent practices in the airline industry (IDtechwire, 2024).

Appendix 3

Case Study - ICON plc

Operational Efficiency

ICON plc uses AI extensively in clinical trial site selection through its proprietary tool called One Search. This AI-enabled solution integrates and analyses large datasets to optimize the identification and selection of clinical trial sites. One Search ‘reduces the median time required to identify suitable clinical trial sites by 53%. It also decreases the number of non-enrolling or underperforming sites by up to 50%, significantly reducing unnecessary costs and improving trial timelines. ICON plc is also 25% more likely to hit FPI targets and 21% more likely to hit LPI targets (ICON, 2025).

Mapi Research Trust COA, which utilizes AI to maintain up-to-date Clinical Outcome Assessments from public sources in near real-time, supporting optimal trial design
FORWARD+, an AI-enabled resource management tool that provides enhanced visibility into resource demands, allocations, and forecasting (GuruFocus, 2025).

Study Start-up Site Contracts, which simplifies the clinical contract drafting process by using historical data; and the OMR AI Navigation Assistant, which empowers operational clinical study metrics with generative AI, offering advanced analytics to transform data into actionable business insights (ICON, 2025).

Cassandra is ICON plc’s AI system designed to predict post-marketing requirements:
‘‘Cassandra harnesses real word data obtained from the post marketing requirements (PMR) databases of the Food and Drug Administration (FDA) and European Medicines Agency (EMA) from 2003 forward. It applies AI and machine learning to the information to predict if and what types of post marketing requirements will be required by the FDA and/or EMA on new products. Understanding additional requirements can be critical for the overall success of a new drug and managing the cost and risk involved.’’ 99% and 97% accuracy in predicting PMRs from the FDA and EMA, respectively (ICON, 2025).

These AI-driven solutions collectively aim to accelerate trial timelines, improve data accuracy, optimize resource allocation, and ensure compliance, positioning ICON at the forefront of technological innovation in the clinical research industry.

Labour Transformation

ICON’s integration of AI into its operations represents a shift in workforce roles, emphasizing labour transformation rather than direct job displacement. By automating repetitive administrative tasks such as data entry, document management, and contract processing, AI has alleviated operational burdens, allowing employees to focus on more strategic, analytical, and problem-solving activities. Rather than replacing employees, the company has prioritised upskilling, producing new AI-augmented roles such as AI Specialists, Data Scientists, and AI Champions. These roles enable professionals to utilise AI for tasks like data analysis, patient recruitment insights, and predictive modelling, requiring an enhanced set of digital and analytical skills (ICON, 2025).

With AI assuming responsibility for routine functions, employees can now dedicate more time to critical aspects of clinical research, including patient engagement, trial design, and innovation. For example, clinical trial managers increasingly rely on AI-driven insights to make informed, data-backed decisions rather than manually aggregating information. To support this transition, ICON has implemented AI literacy programs and established AI Champions to drive efficiency and promote a culture of continuous learning. Employees are encouraged to develop technical and analytical competencies, ensuring they can work effectively alongside AI.

Ethical Challenges

Furthermore, the company has taken a proactive approach to ethical AI use, with an AI Ethics Committee overseeing responsible deployment and fostering transparency in decision-making. By actively involving employees in AI implementation, ICON promotes adaptability and empowerment, mitigating concerns about automation. Ultimately, ICON's AI-driven transformation aims to augment human capabilities rather than replace jobs, with a strong emphasis on reskilling, ethical AI deployment, and workforce engagement. This approach not only safeguards job security but also fosters innovation and efficiency in clinical research and healthcare intelligence (AI Ireland, 2024).

Appendix 4

Case Study - Bank of Ireland

Bank of Ireland is leveraging AI in various areas of its operations to enhance customer experience and improve operational efficiency**:**

Operational Efficiency

Automation of Loan Processing

By implementing a cloud-native personal loan platform leveraging AI and data analytics, the bank reduced loan approval times dramatically—from an average of two days to under ten minutes. This automation decreased manual intervention by 60%, allowing staff to focus on higher-value tasks. Through enterprise architecture transformation and cloud migration strategies involving AI, the bank achieved a 40% reduction in time-to-market for new products and services (Vintage Global, 2025).

Customer Service

In 2024, Bank of Ireland invested €34 million in upgrading its telephony and customer relationship management (CRM) systems. This investment includes the implementation of voice biometric technology to enhance customer authentication, improve fraud protection, and reduce call waiting times. (Emanuel-Burns, 2024) According to an Accenture 2024 survey, 68% of UK and Irish banking customers prefer interacting with AI-powered virtual assistants for routine banking inquiries. AI chatbots, such as NatWest's Cora and Bank of Ireland's

RoboAdvisor, handle millions of customer queries annually, reducing wait times and improving customer satisfaction. (Anderson, 2025).

Next Best Action Engine

The NBA engine is a recommender system designed to analyse customer data and predict optimal actions or offers tailored to individual needs. It integrates AI and machine learning to create a personalised banking experience, like how platforms like Netflix recommend content based on user preferences. This approach helps BOI re-establish a personal touch in customer interactions, which has been challenged by the rise of self-service and open banking (Kennedy, 2021).

The Bank of Ireland's Next Best Action (NBA) engine leverages AI to enhance customer engagement and simplify operations. It provides personalized financial solutions, such as tailored loan products and savings accounts, by analysing customers' profiles and behaviours. Using predictive analytics, the system delivers timely and relevant recommendations, dynamically adjusting to customer interactions. By integrating data from multiple touchpoints, including apps, ATMs, and call centres, the NBA engine ensures a seamless and proactive customer experience. Additionally, it boosts operational efficiency through faster loan approvals and customized recommendations, improving both customer satisfaction and business outcomes.

Bank of Ireland won ‘‘best application of AI in a large enterprise’’ at the AI Awards Ireland 2021 for this Next Best Action Engine (O’Brien, 2022).

Labour Transformation

In 2024, the Bank of Ireland announced the creation of 100 new technology roles to support its digital transformation and enhance its technological capabilities. These positions span critical areas such as cloud computing, cybersecurity, data analytics, delivery management, engineering, and resilience. The bank is focusing on emerging technologies like AI, APIs, and open banking to drive innovation.

The new recruits will play a pivotal role in advancing key initiatives, including the development of new customer features on digital platforms, enhancing fraud prevention systems, and leveraging advanced data analytics for improved decision-making. These efforts align with the bank's strategy to improve customer experiences and safeguard against emerging cyber threats. This recruitment initiative builds on a strong foundation of digital growth, including an 18% increase in active digital users in 2023 and significant investments such as €34 million in telephony and CRM upgrades, €60 million in ATM improvements, and €15 million in fraud prevention technology. The bank also introduced over 60 enhancements to its mobile app, including biometric features and fraud monitoring tools.

Bank of Ireland emphasises the creation of a supportive work environment with flexible working options, inclusive HR policies (such as paid leave for maternity, paternity, surrogacy,

and fertility treatments), and competitive pay. These roles reflect the bank's commitment to building a world-class technology team to deliver innovative solutions for customers and colleagues alike (Bank of Ireland, 2023).

Ethical Considerations and Human-Centric Policy

The Bank of Ireland and the Financial Services Union (FSU) have introduced a human-centric AI policy that marks a collaborative approach to managing AI's impact on employees. This policy emphasizes transparency and trust by ensuring clear communication about AI-related changes to job roles. It utilises collective bargaining to give staff a voice in how AI affects their work. A key focus is on training and reskilling to prepare employees for evolving job demands. The policy includes ongoing oversight to align with changing regulatory standards and aligns with the EU's emphasis on human-centric AI. By prioritising these aspects, the Bank of Ireland is leading the way in responsible AI adoption within the Irish banking sector (Fsunion, 2021).

While AI will continue to evolve, both sides nonetheless remain committed to the existing change management procedures should they be required in the future. In terms of training, employers should provide necessary training to adapt to new technologies, during working hours. For upskilling/reskilling and career guidance, employers and employees are encouraged to carry out trainings, where possible (Fsunion, 2021).