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Workforce transformation in the Age of AI: organizational approaches to Responsible AI integration and employee redeployment

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ABSTRACT (ENGLISH)

This thesis examines how organizations can navigate workforce transformation in the Age of Artificial Intelligence (AI) by integrating Responsible AI principles and strategically redeploying employees. The research addresses a key problem: how should companies balance AI-induced automation with ethical considerations and workforce well-being? The findings enable an exploration of the factors influencing decisions to replace, retrain, or augment job roles. The findings highlight that while AI can automate a range of repetitive tasks, it also creates opportunities for more complex, human-centered work, emphasizing creativity, empathy, and problem-solving. By applying the Task Exposure to AI (TEAI) framework, the thesis classifies roles according to their susceptibility to automation, complexity, and redeployment potential. Results show that successful AI integration depends not only on technical readiness but also on ethical oversight, and robust retraining programs. The research underscores that AI does not necessarily threaten human employment if managed responsibly. Instead, it can serve as a catalyst for elevating human capabilities and fostering innovation. The proposed framework and recommendations provide organizations with a strategic roadmap, ensuring that AI-driven efficiencies align with principles of fairness, accountability, transparency, and reliability. This thesis tries to offer practical insights for policymakers and industry leaders aiming to harness AI's transformative power while maintaining an engaged, future-ready workforce.

ABSTRACT (DEUTSCH)

Diese Arbeit untersucht, wie Organisationen den Wandel der Belegschaft im Zeitalter der Künstlichen Intelligenz (KI) meistern können, indem sie Prinzipien der verantwortungsvollen KI integrieren (auch als RAI bekannt) und Mitarbeiter strategisch umverteilen. Die Forschung dieser Arbeit widmet sich einem zentralen Problem: Wie sollten Unternehmen die durch KI induzierte Automatisierung mit ethischen Überlegungen und dem Wohlbefinden der Belegschaft in Einklang bringen? Die Ergebnisse ermöglichen eine Analyse der Faktoren, die Entscheidungen darüber beeinflussen, ob Arbeitsrollen ersetzt, umgeschult oder erweitert werden sollten. Es wird deutlich, dass KI zwar eine Vielzahl repetitiver Aufgaben automatisieren kann, gleichzeitig jedoch auch Chancen für komplexere, menschenzentrierte Tätigkeiten eröffnet, die Kreativität, Empathie und Problemlösungsfähigkeit betonen. Durch die Anwendung des Task Exposure to AI (TEAI)-Rahmenwerks werden Rollen entsprechend ihrer Automatisierungsanfälligkeit, Komplexität und des Potenzials für eine Umverteilung klassifiziert. Die Resultate zeigen, dass eine erfolgreiche Integration von KI nicht nur von der technischen Bereitschaft, sondern auch von ethischer Aufsicht und robusten Umschulungsprogrammen abhängt. Die Forschung unterstreicht, dass KI die menschliche Beschäftigung nicht zwangsläufig gefährdet, wenn sie verantwortungsvoll gemanagt wird. Vielmehr kann sie als Katalysator zur Steigerung menschlicher Fähigkeiten und zur Förderung von Innovationen dienen. Das vorgeschlagene Rahmenwerk und die Empfehlungen bieten Organisationen eine strategische Roadmap, die sicherstellt, dass KI-getriebene Effizienzsteigerungen mit den Prinzipien von Fairness, Verantwortlichkeit, Transparenz und Zuverlässigkeit in Einklang stehen. Diese Arbeit versucht, praktische Einblicke für politische Entscheidungsträger und Branchenführer zu bieten, die darauf abzielen, die transformativen Potenziale der KI zu nutzen und gleichzeitig eine engagierte, zukunftsorientierte Belegschaft zu erhalten.

Contents

1. INTRODUCTION

In today's rapidly evolving digital era, technological innovation is no longer confined to incremental changes but is instead redefining entire industries and transforming workforce dynamics. Artificial Intelligence (AI) is rapidly becoming one of the defining forces in transforming modern business models and workforce roles. Workforce transformation in the Age of AI is a phenomenon with far-reaching implications for organizations, employees, and policymakers alike. This thesis examines how companies can strategically integrate AI in a responsible manner while ensuring effective employee redeployment, thereby maintaining the delicate balance between technological progress and human capital preservation.

The transformative power of AI is evident across multiple sectors, from automating routine operational tasks to augmenting decision-making in complex environments (McKinsey & Company, 2022). Recent studies have emphasized that while AI is often perceived as a disruptive force capable of rendering certain jobs obsolete, it simultaneously has the potential to enhance productivity and create new roles (Lund and Manyika, 2017; Russo, 2020). However, the dual nature of AI, its capacity to both displace and augment human labor, poses a critical challenge for organizational leaders. How should companies respond when confronted with the decision to either lay off employees whose tasks can be automated or invest in upskilling programs to redeploy them? This dilemma reflects a key tension organizations face as they reshape their workforce strategies under AI pressures.

Current research has largely focused on forecasting job displacement through predictive models and technical assessments of automation potential. For example, frameworks such as the Task Exposure to AI (TEAI) Index have been developed to measure the extent to which AI can substitute human work (Colombo et al., 2024). Similarly, studies on Responsible AI highlight ethical considerations and regulatory measures designed to protect workers (Afshar, Sato, and Walton, 2025). Despite these valuable contributions, there remains a significant gap in the literature: few studies have explored an integrated approach that not only quantifies AI's automation potential but also provides a structured methodology for redeploying human resources in response to technological change.

This research seeks to bridge that gap by developing a comprehensive framework that integrates both the technical and human elements of workforce transformation. The central research questions guiding this study are: *how organizations navigate workforce transformations due to AI by learning from past technological shifts,* and *how AI integration*

reshapes employee roles, particularly in redeployment and upskilling. In pursuing these questions, the study aims to investigate the factors that influence the decision to either replace or retrain employees when introducing AI into organizational workflows.

To answer this question, the research employs an exploratory qualitative approach that combines historical analysis with technical evaluation methods. By drawing lessons from past technological revolutions and integrating contemporary frameworks such as the TEAI Index and Responsible AI principles, the study aims to develop a composite scoring model. This model assesses roles based on job complexity, AI replacement likelihood, and the potential for AI-assisted redeployment.

To address the research questions, a series of semi-structured interviews with HR managers, AI experts, and employees affected by AI-driven changes, as well as in-depth case studies of pioneering companies such as Klarna, Meta, and Duolingo were analysed. By drawing on a wide array of data sources, the study develops a composite scoring framework that evaluates roles based on three key dimensions: AI substitutability, job complexity (or the "human element"), and redeployment ease. The framework not only assesses the likelihood of a role being automated but also examines the feasibility of retraining employees to take on new or augmented roles.

One of the unique contributions of this thesis is its dual focus. On one hand, it provides empirical evidence of the current state of workforce transformation, drawing from both historical analogies and contemporary case studies. On the other hand, it offers a practical tool for organizations, a composite scoring model, to guide their strategic decisions when integrating AI. This model is designed to be adaptable across various industries, recognizing that the impact of AI varies significantly depending on the nature of the work and the underlying skills of the workforce. For instance, while routine operational roles in customer service and retail may be highly susceptible to automation, roles requiring higher-order cognitive skills, such as strategic planning or creative problem-solving, are more likely to be augmented rather than replaced.

Moreover, the study's exploration of workforce protection policies is timely. As governments and regulatory bodies increasingly focus on the ethical deployment of AI, there is an urgent need for organizational strategies that align with broader societal goals. By making exam of initiatives such as upskilling programs and public-private partnerships in diverse contexts from manufacturing to digital services, this research underscores the importance of a specific approach to managing technological change. The findings suggest that a combination of proactive retraining initiatives, supportive policy frameworks, and transparent change

management practices can mitigate the unpredictible effects of AI-provoked job displacement, ultimately turning a potential crisis into an opportunity for economic and social advancement. The thesis also contributes to the theoretical understanding of technological change by historical workforce transformations with the current AI revolution. Either the mechanization of production during the Industrial Revolution or the computerization of the late 20th century, past industrial revolutions offer valuable lessons in managing large-scale changes. However, in comparison with the previous transitions that occurred over extended periods, the rapid pace of AI advancement compresses these changes into much shorter time frames, leaving less room for gradual adaptation. This comparative analysis enriches the theoretical backdrop of the study and also reinforces the urgency for organizations to develop agile strategies capable of responding to rapid technological shifts.

In this way, the main contributions of this thesis to the literature are the following. First, it advances the discourse on AI-driven workforce transformation by integrating technical and human-centric perspectives into a unified analytical framework. Second, it provides empirical insights into the organizational strategies employed by leading companies as they navigate the challenges and opportunities presented by AI integration. Third, it offers a practical decision-making tool, namely the composite scoring model, that can assist organizations in making informed choices about employee redeployment versus automation. Lastly, this research aims to inform both academic debate and practical policy, contributing to a more balanced and responsible approach to managing the disruptive impacts of artificial intelligence in the modern workplace.

Roadmap of the Thesis

This thesis is structured to progressively build an understanding of AI-driven workforce transformation. From historical insights to the development of a technical framework that leverages modern approaches such as TEAI Index and RAI principles. Literature review shows historical evidence of technological revolutions, highlighting key transitions in labor markets and drawing lessons that remain relevant today. While these historical analyses provide essential context, the focus shifts in later chapters toward contemporary challenges and opportunities in workforce transformation.

Chapter 3 details the research methodology, justifying the exploratory qualitative approach and outlining the data collection and analysis methods used to investigate

organizational responses to AI implementation. This chapter sets the stage for the development of a composite scoring framework.

Chapter 4 presents the core findings of this thesis and a structured scoring framework for evaluating jobs based on job complexity. The framework integrates insights from the TEAI Index with additional dimensions informed by Responsible AI considerations, offering a practical tool for assessing the impact of AI on various roles. Detailed example applications illustrate how the framework categorizes roles, namely from those at high risk of automation to those that are likely to be augmented.

Chapter 5 discusses the findings, synthesizing qualitative data from interviews and case studies.

Finally, Chapter 6 concludes the thesis by summarizing the key insights, discussing the theoretical and practical contributions of the work, and proposing directions for future research.

2. THEORETICAL BACKGROUND

2.1. Overview of Workforce Transformations Across Industrial Revolutions

Major technological revolutions have consistently reshaped the workforce, displacing some jobs while creating new opportunities. The Industrial Revolution (late 18th–19th century) marked the first major shift, introducing steam-powered mechanization that moved labor from farms and artisan workshops to urban factories. Industries like textiles, steel, and coal mining expanded rapidly, creating thousands of factory jobs while displacing many manual crafts and farm roles. Workers initially faced significant skill gaps as they adapted to the demands of industrial work, but over time, on-the-job training, apprenticeships, and public education reforms helped bridge these gaps (Agarwal and Agarwal, 2017). This era also saw the rise of industrial cities as people migrated from rural areas in search of factory employment, fundamentally changing social and economic structures.

Building on this transformation, the Electrification era (late 19th–early 20th century) brought widespread use of electric power, the assembly line, and advancements in telecommunications. Productivity soared as manual labor was further reduced, with assembly lines streamlining manufacturing processes and enabling mass production. While some manual labor roles became obsolete, new jobs emerged in industries like automotive production, electrical goods manufacturing, utility maintenance, and telecommunications. Vocational schools and technical institutes grew to equip workers with the skills needed for these evolving industries, promoting the concept of continuous skills improvement (Agarwal and Agarwal, 2017).

The Digital Revolution (late 20th century) further accelerated workplace transformation through computers, robotics, and the internet, leading to the automation of many routine cognitive and manual tasks. Jobs like typists, file clerks, and assembly-line workers declined, but new sectors in IT, software development, and digital services flourished, creating millions of jobs. This shift demanded widespread computer literacy and technical skills, leading to retraining programs and solidifying the importance of lifelong learning (Imamov and Semenikhina, 2021).

These historical patterns reveal a consistent cycle of job displacement followed by new role creation, underscoring the critical role of upskilling in adapting to technological change, making it a vital lesson for navigating today's AI-driven workforce transformation (Lund and Manyika, 2017).

2.2. Key historical lessons relevant to AI workforce transformation

Rather than fully replacing human roles, most new technologies historically reshape them by altering workflows and creating adjacent opportunities. Historical fears of mass job loss, from the Electrification and computers have repeatedly been followed by economic adjustments that generate new roles, such as the rise of software developers and network administrators after the spread of personal computers in the 1980s, which ultimately created an estimated 15.8 million net new jobs in the U.S. since 1980 (Lund and Manyika, 2017). This historical pattern shows that technology typically reshapes the nature of work rather than eliminating it entirely, suggesting that AI, if managed responsibly, could similarly augment human productivity and open new employment opportunities.

Proactive job training and retraining programs have historically played a crucial role in helping workers adapt to technological disruptions, with government-led initiatives like the U.S. Manpower Development and Training Act of 1962 successfully reskilling displaced workers (Kennedy, 1962). Workforce adaptability has proven most effective when approached as a collective effort involving governments, educational institutions, and businesses, with public-private partnerships and vocational training programs facilitating smoother transitions. These historical lessons highlight the importance of reskilling, lifelong learning, and supportive policies in managing AI-driven workforce transformation, turning potential job displacement into opportunities for growth and evolution.

2.3. Comparative analysis: past workforce shifts vs. AI disruption today

With the advent of advanced AI, often termed the "Fourth Industrial Revolution," it is natural to compare today's trends with those of past industrial transformations. There are clear similarities: like the steam engine, electricity, and computers before it, artificial intelligence promises to significantly boost productivity and change how work is done (McKinsey & Company, 2022). Consequently, AI is expected to displace certain jobs while creating new categories of work – mirroring the historical pattern of creative destruction.

Furthermore, as in previous eras, AI's introduction is likely to augment many jobs rather than fully automate them. In fields ranging from healthcare to finance, AI tools can assist human workers (e.g. decision support systems), potentially making human labor more productive and valuable rather than not essential.

However, there are also important differences between past industrial shifts and the ongoing AI-driven transformation. One major difference is the speed of change. Previous

transformations, such as the move from agricultural to industrial work, unfolded over several decades, which gave society time to gradually adapt. For example, in the early 20th century, the workforce shift out of agriculture into manufacturing and services happened over the span of two generations, allowing many older workers to retire and younger workers to enter new industries without abrupt displacement (Illanes et al., 2018). In contrast, AI and automation technologies are advancing at a much faster pace, potentially compressing major labor market shifts into just a few years. Recent analyses suggest that by 2030, as many as 375 million workers worldwide (roughly 14% of the global workforce) may need to change occupational categories due to automation and AI, a scale and urgency of workforce redistribution that has few historical precedents (Illanes et al., 2018). This means a large number of mid-career workers could be forced to retrain and transition in a short time frame, rather than change happening gradually through generational turnover. Societies have rarely had to retrain such large numbers of people in such a short period (Illanes et al., 2018).

Another difference lies in the scope of impact across job types. The AI disruption is reaching both blue-collar and white-collar jobs, from factory workers to office professionals. In past transitions, it was often the case that low-skill or manual workers were most affected, while higher-skill knowledge workers were relatively safe. Today, even highly educated professionals, for example, lawyers, radiologists, accountants, may see portions of their work automated by AI. It raises the possibility of simultaneous disruption in many fields, whereas historically, disruptions tended to be more localized before spreading (Bradley, 2024).

This linkage between past and present underlines the thesis objective: to shape a future in which technological innovation and human workforce development go hand in hand, so that the age of AI becomes an opportunity for broad economic and social advancement rather than a threat.

2.4. Responsible AI and the TEAI Framework

Responsible AI was already mentioned a couple of times, the question remains why is it called “responsible”. It refers to the design, development, and deployment of artificial intelligence systems in ways that are ethically sound, transparent, and aligned with societal values (Afshar, Sato, and Walton, 2025; Shapiro, Tarka, and Zagger, 2024). It is called “responsible” because it prioritizes fairness, accountability, privacy, and reliability, ensuring that technology benefits diverse stakeholders without perpetuating biases or harming vulnerable groups (European Commission, 2021). The main principles guiding Responsible AI include transparency, to maintain clarity in how algorithms make decisions; fairness, to prevent

discrimination; accountability, to assign responsibility for AI-related actions; and reliability, to safeguard system performance (Afshar, Sato, & Walton, 2025).

The TEAI framework offers a systematic method for assessing the impact of AI on workforce roles by evaluating dimensions such as AI substitutability, job complexity, and redeployment ease (Colombo et al., 2024). In developing the TEAI and Responsible AI frameworks for managing AI-driven workforce transformation, there will be incorporate lessons such as the need for workforce adaptability, the importance of continuous reskilling/upskilling, and the role of policy interventions in smoothing transitions. By learning from what worked (and what didn't) in prior industrial revolutions, the TEAI and Responsible AI frameworks aim to ensure that the integration of AI into the workplace is both technically effective and socially responsible.

2.5. Workforce protection in the Age of AI

Governments have long responded to technological disruptions by creating social safety nets and retraining programs to support displaced workers. Early examples include unemployment insurance in Britain (1911) and the U.S. (1935), as well as the U.S. Manpower Development and Training Act (1962), which addressed job losses from automation (Kremen, 1962). Labor unions played a crucial role in negotiating worker protections, helping employees adapt to changes brought by industrialization, electrification, and the digital revolution (Lloyd and Payne 2023).

Today AI's growing role in sectors like finance, healthcare, and logistics has led to concerns over job displacement, prompting governments to focus on regulation, reskilling initiatives, and labor protections.

In the European Union, the EU AI Act (2024) sets strict regulations on AI deployment, emphasizing worker protection and ethical AI practices. The Act ensures transparency and accountability in AI-driven employment decisions to prevent bias in hiring, promotion, and termination processes (Shapiro, Tarka and Zagger, 2024). The European Globalisation Adjustment Fund (EGF) offers displaced workers financial aid for job searches, retraining, and entrepreneurship. Under the EU AI Act, uses of AI in employment (hiring software, worker monitoring systems, etc.) are classified as high-risk, meaning they must meet rigorous standards for transparency, non-discrimination, and human oversight (Afshar, Sato, and Walton, 2025). This effectively builds worker protection into the regulation, employers in Europe will have to inform and fairly treat workers when using AI, or else risk legal consequences.

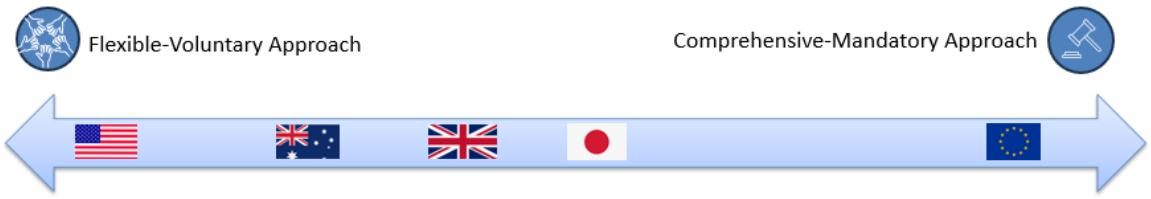

Figure 1: Spectrum of AI regulations, range from a flexible, voluntary approach to a strict, mandatory framework. Source: Own illustration.

The European Union enforces a comprehensive-mandatory approach, with the AI Act (2024) setting strict regulatory requirements for high-risk AI applications, including workplace AI, hiring algorithms, and biometric surveillance.

The United States has taken a markedly different path, with a focus on guidance and sector-specific measures rather than a single comprehensive AI law. Compared to the EU, current U.S. AI governance is less strict and more fragmented. Enforcement in the U.S. occurs through a patchwork of regulators and courts rather than a unified AI oversight regime. The EU mandates corporate accountability through fines and centralized enforcement, whereas the U.S. relies on market incentives and litigation. Additionally, In the United States, the Department of Labor has introduced AI Best Practices to promote ethical AI use and uphold job quality. Proposed legislation like the AI Adjustment Assistance aims to support workers displaced by AI, providing retraining and income support similar to trade adjustment programs. State-level actions, such as New York's "LOADinG" Act, require government agencies to monitor AI use (Heastie and Otis, 2024), while California has launched pilot programs to assist workers affected by AI-driven automation (National Conference of State Legislatures, 2024). Reskilling and upskilling initiatives aim to help workers transition into roles that AI cannot easily replace, such as strategic decision-making and creative problem-solving.

Countries worldwide have adopted approaches to AI regulation, ranging from voluntary frameworks to strict mandatory oversight. For example, The AI Policy Observatory for the World of Work (n.d.) highlights that Canada was the first country to launch a national AI strategy in 2017, investing heavily in AI research and talent development. In recent years, Canadian policymakers have shifted toward regulating AI impacts, seeking a balance between innovation and protection.

Another example is Japan. Japan’s AI policy emphasizes innovation aligned with human-centric values, consistent with its Society 5.0 vision of harmonious integration of technology and society (Nakayama, 2024). The government has favored soft law and multi-

stakeholder collaboration instead of strict regulation. As of 2024, Japan has no AI law; officials believe comprehensive regulations are not yet required, and prefer an agile approach that can adapt as technology evolves (Habuka, 2023).

Australia's AI policy approach centers on principles and frameworks to guide Responsible AI, with relatively limited hard law so far (Hennessy, Park, and Chatwood, 2024). Regulation is evolving: as of 2024, no comprehensive AI law exists, but reviews of existing laws are underway to identify gaps. Notably, the government introduced a Policy for Responsible AI in Government. This policy imposes mandatory requirements on federal agencies – such as appointing accountable AI officials and publishing transparency reports on AI use (Digital Transformation Agency, 2024) to build public trust.

2.6. AI-Driven workforce transformation, sector-specific view

What makes the AI-driven transformation particularly unique is its unprecedented pace, and the creation of entirely new ways of working. AI is not only automating repetitive tasks, but also augmenting human capabilities, enabling higher levels of productivity, innovation, and efficiency across industries. It has a dual impact displacement of certain roles alongside the emergence of new ones. Unlike previous technological shifts that were often confined to mechanizing physical labor, the AI revolution extends into cognitive and decision-making tasks.

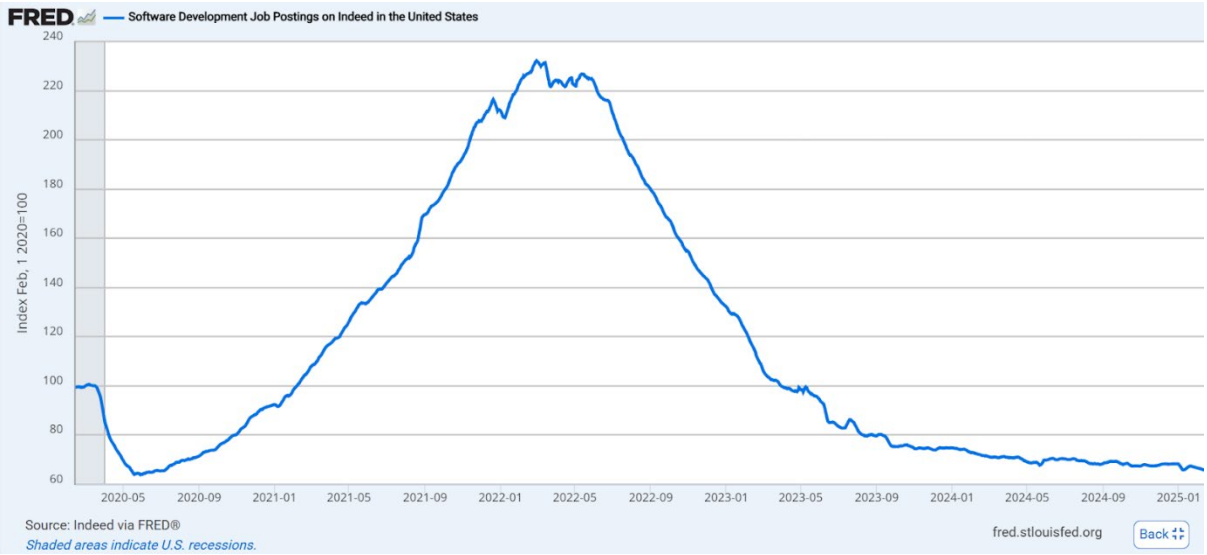

Figure 2: Indeed via FRED, Software development job posting on Indeed in the US (Federal Reserve Bank of St. Louis, 2025)

The Figure 2 depicts the trend of Software Development Job Postings on Indeed in the United States, indexed to February 1, 2020. It shows a sharp increase in job postings from mid-2020 to early 2022, followed by a steep decline throughout 2022 and into 2025. As the nature of work continues to evolve, understanding these shifts becomes crucial for policymakers, businesses, and workers navigating the complexities of an AI-enhanced economy (Walden, 2024).

AI's impact is being felt across multiple sectors, each experiencing disruption in distinct ways. Looking at manufacturing and logistics, automation powered by AI and robotics is streamlining production and warehousing. As reported by Williams-Grut (2016), Foxconn, a major electronics manufacturer, replaced 60,000 factory workers with robots in a single facility, dramatically increasing automation on its assembly lines. In warehouses, AI-driven robots and drones handle repetitive tasks like sorting, packing, and inventory checks, improving both efficiency and safety (Williams-Grut, 2016).

In finance and legal services a notable example is JPMorgan's COIN platform, an AI system that reviews legal documents, such as loan contracts. COIN can analyse and extract information from thousands of complex contracts in seconds, a task that previously required 360,000 hours of lawyers' time (superiordatascience.com). Similarly, banks and accounting firms use AI for fraud detection and auditing, reducing error rates and freeing employees for higher-level advisory work (Superior Data Science, n.d.). Similarly, banks and accounting firms employ AI for fraud detection and auditing, reducing error rates and freeing employees for higher-level advisory work.

In medicine, AI tools are augmenting the work of doctors and technicians. Machine learning systems can sift through medical images (such as X-rays, MRIs, or CT scans) and detect anomalies with speed and accuracy comparable to specialists. In some diagnostic tasks, AI performance matches or even surpasses human experts' capabilities (Najjar, 2023), allowing earlier and more precise detection of diseases. AI is also being used to predict patient deterioration, assist in surgery with robotic precision, and streamline administrative workflows in hospitals, thereby redefining roles in healthcare delivery (e.g. radiologists now collaborate with AI for image analysis, and pharmacists use AI to optimize medication management).

Customer Service industries are leveraging AI to enhance customer interactions and operations. AI chatbots and virtual assistants now handle a large volume of customer inquiries online, providing 24/7 support for tasks ranging from basic FAQs to banking transactions. These AI agents can manage thousands of queries simultaneously, drastically reducing wait

times and operational costs (Werbooz, n.d.). Later in the case studies this thesis is analysing the recent case of Klarna, which shows the results of AI implementation.

Across these sectors and others, the common thread is that AI is automating routine, repetitive work while augmenting more complex work. Jobs centered on repetitive manual or data-processing tasks are being redefined or eliminated, whereas new opportunities are emerging in monitoring, maintaining, and improving AI-driven processes. Routine roles in areas like data entry, bookkeeping, and assembly line work are particularly vulnerable to being phased out. Yet, on the other hand, AI is also a catalyst for new employment opportunities: the same analysis forecasts 97 million new roles will emerge by 2025, in fields such as data science, AI development, robotics maintenance, and other "future of work" roles (Russo, 2020). As one study noted, AI's rise "isn't synonymous with job loss — new roles and industries are expected to emerge", and productivity gains from AI could even increase income opportunities for those who acquire in-demand skills (Walden, 2024).

2.7. Organizational strategies for navigating AI-Driven workforce change

Businesses and organizations are not passively observing these workforce trends – they are actively responding with strategies to navigate AI-driven change. To remain competitive and mitigate the risks of disruption, companies are rethinking talent management and work design. Several key strategies have emerged as widely adopted best practices for aligning the workforce with AI innovations:

A top priority for organizations is to invest in developing the skills of their existing employees. As AI automates certain tasks, companies are retraining staff to take on new responsibilities that AI cannot do, or to work alongside AI systems. This might involve formal training programs in data analysis, machine learning, or other digital skills, as well as on-the-job learning opportunities. Forward-looking firms view human capital as a key competitive asset. Analyst in World Economic Forum, Amanda Russo (2020) notes that *"the most competitive businesses are those that choose to reskill and upskill their current employees"*.

Rather than simply eliminating jobs that AI affects, many organizations are redesigning jobs to better integrate AI and human work. This can mean redefining roles so that repetitive or computational tasks are handled by AI, while human workers focus on complementary aspects, like oversight, creative input, or complex problem-solving. New hybrid roles are emerging, such as AI ethicists, automation coordinators, or data curators, which didn't exist before. Companies are also moving employees into new internal positions as their old tasks become automated (Russo, 2020). This internal mobility is facilitated by initiatives like rotation

programs and career pathway counseling. This way firms can minimize layoffs while maximizing the productivity gains from AI.

3. RESEARCH METHODOLOGY

3.1. Exploratory Research

The advent of AI is transforming workforce structures in ways that create uncertainty around whether jobs will be replaced or redeployed. Workforce transformation under AI is relatively new making an exploratory approach most suitable. Exploratory research is typically used when a topic is novel or when existing knowledge is limited (Saunders, Lewis and Thornhill, 2009). In this case, AI-driven changes to jobs and organizational responses represent an emerging area with little established theory. An exploratory methodology allows the researchers to investigate open-ended questions and uncover patterns without needing predefined hypotheses. According to Collis and Hussey (2009), when few prior studies exist on a problem, exploratory studies help clarify the understanding of that problem (Collis and Hussey, 2009). Therefore this flexibility was chosen in this thesis, where the impacts of AI workforce transformation are still unfolding.

By using an exploratory design, the research can go into how organizations are actually handling AI-induced job changes, rather than merely quantifying known variables. Exploratory research is suitable for probing such dualities as companies tend to retrain and redeploy employees into new roles versus when they resort to layoffs. Explanatory approach helps identify important variables, patterns, and research questions that can later be examined in more structured descriptive or explanatory research (Collis and Hussey, 2009).

Existing research is yet insufficient, much of the literature to date offers broad predictions or theoretical viewpoints, but few studies provide practical frameworks or empirical evidence on managing AI-driven workforce changes. There is a lack of standardized frameworks for assessing AI's impact on jobs. As Klinova and Korinek (2023) observe, even AI impact assessments often overlook labor market outcomes, leaving organizations with little guidance on how to handle affected employees (We Need Tools to Manage AI's Jobs Impact (Klinova and Korinek 2023). Meaning, while it has analyses projecting how many jobs could be automated, it has limited research on how organizations should respond at the ground level.

3.2. Research problem

Organizations implementing AI face a critical question: should companies lay off employees whose tasks are automated, or reskill and redeploy them elsewhere in the company? This uncertainty is fueled by mixed signals in the current landscape. On one hand, numerous

studies and media reports predict significant job displacement due to AI. On the other hand, there is growing emphasis on retraining and internal mobility to retain talent. For instance, the World Economic Forum's Future of Jobs Report 2025 found that 41% of companies plan to reduce roles that AI can automate, yet 77% of companies plan to focus on retraining existing employees in AI-related skills (AIbase 2025). In practice, this means many firms anticipate AI will eliminate certain jobs, but even more firms intend to upskill their workforce rather than resort to layoffs (AIbase 2025).

The thesis will investigate how organizations navigate workforce transformations due to AI by learning from past technological shifts, and how AI integration reshapes employee roles, particularly in redeployment and upskilling. To explore these topics, a qualitative approach was used, combining insights from case studies and interviews to identify patterns, decision-making processes, and strategies that organizations employ to adapt to AI-driven changes. By answering this question will build a framework based on TEAI concept by Colombo et al. (2024) a TEAI index that uses AI itself to rate how well AI can perform specific job tasks.

Colombo et al. (2024) note that even in occupations highly exposed to AI, the technology might either substitute certain tasks or complement them (Colombo et al. 2024). If AI substitutes most of a job's tasks, the role could become redundant, leading to layoffs; if it complements or augments tasks, the role may evolve, requiring retraining rather than elimination (Thomas 2024). The challenge is that organizations currently lack a clear framework to assess which scenario is more likely for a given job.

The very need for such an index indicates that no universally accepted metric existed to evaluate AI's impact on jobs, underscoring the exploratory nature of current inquiry in this domain. In light of these uncertainties and knowledge gaps, the research problem centers on investigating the approaches organizations take to manage workforce transformation when adopting AI. The result seeks to show why some organizations prioritize redeployment while others opt for layoffs, and what factors influence these decisions. Given the novelty of the issue and the paucity of existing frameworks, exploratory research design is necessary to formulate an initial understanding of this complex problem.

Based on the problem identified, this study aims to explore patterns in AI-driven job transformation and how organizations respond, in order to develop preliminary insights and frameworks that can guide decision-making. In particular, the research will investigate the factors and conditions under which companies choose to redeploy employees versus implement layoffs when introducing AI technologies. The goal is to uncover common themes in these

decisions and, building on them, to propose a tentative scoring model (or index) that can assess a job's propensity for replacement by AI versus the potential for employee redeployment.
In clearer terms, the thesis seeks to answer the following **research questions**:

- What patterns exist in organizational responses to AI-related job changes?
- What key factors (e.g. task routineness, skill levels, availability of alternative roles, company culture or policy) drive the decision to retrain and reassign staff versus terminate positions?

By identifying these factors, the research will attempt to formulate a conceptual model, for example, a rubric or index that scores job roles on dimensions like "AI replacement likelihood" and "redeployment suitability." One envisioned outcome is the development of TEAI Index for each examined role, which integrates both the technical feasibility of AI automating that role and the practical feasibility of retraining the role's worker for other tasks. This index would serve as a tool to categorize jobs on a scale or matrix according to whether they are more prone to be eliminated by AI or transformed and absorbed elsewhere in the organization.

Because this is exploratory, no a priori hypothesis is being tested; instead, the study is hypothesis-generating. The insights gleaned will allow us to propose hypotheses for future research. This approach aligns with the nature of exploratory research, as Columbia University's research guidelines note, exploratory studies are used when the goal is to generate hypotheses to be tested in future studies, rather than to confirm an existing hypothesis (Potts, Duong, and Lee, 2023). The goal of this exploratory study is to set the foundation for future research, where the identified patterns can be tested with larger datasets or quantitative methods.

3.3. Methodology Approach

Given the exploratory objective, a qualitative research approach has been chosen as the primary methodology. Qualitative research is appropriate here because the thesis examine a complex, context-dependent issue, how organizations and people navigate AI-driven change, which involes attitudes, decision processes, and nuanced organizational factors. Semi-structured interviews will be the main data collection method, which involve using a prepared interview guide with key questions. This format is ideal for exploratory research because it ensures certain crucial areas are covered with every participant, at the same time giving participants the freedom to introduce new insights or explain nuances in their own words.

The study will interview approximately 10–15 participants who are selected to provide a diverse yet relevant sample of perspectives. The targeted participant groups are HR managers, AI experts, employees in AI-affected roles, for example, an employee whose job has been changed or whose team was downsized due to AI. The selection criteria for interviewees will consider factors such as industry and level of AI exposure as well as responsiveness. Participants will ideally have at least initial firsthand experience with an AI implementation that affected jobs.

Interview partners are selected using purposive sampling to ensure relevance to the topic of workforce transformation through AI. Participants are primarily found through professional networks such as LinkedIn and academic contacts. One of the initial interviewees recommended further individuals with particularly relevant experience, which helped expand the pool of insights. This range allows the inclusion of diverse roles across sectors such as technology, finance, and public administration. By combining a targeted outreach strategy with follow-up suggestions from participants, the research aims to cover multiple industries that are experiencing AI transformation.

In addition to interviews, the methodology includes case studies and secondary data analysis to supplement and contextualize the interview findings. Each participant's organization can be treated as a case study. The research will look into relevant documents and secondary data about these cases, such as company reports, announcements, or industry news articles regarding AI initiatives and workforce changes in those organizations. These secondary sources and case details are expected to validate and enrich the interview data.

3.4. Data analysis

To complement qualitative findings, the research incorporates a scoring framework (from 1 to 5) to assess job roles based on AI replacement and redeployment potential. Drawing on the TEAI index, jobs are evaluated on:

1. AI substitutability – the extent to which AI can perform the job's tasks.
2. Job complexity & human element – the level of creativity, decision-making, or human interaction required.
3. Redeployment ease – the feasibility of retraining or transitioning the worker to another role.

These scores are combined into Replacement Risk – Redeployment Potential to categorize roles into:

- Transform (augment) jobs – AI enhances productivity but does not replace the role.
- Automate (eliminate) jobs – AI fully replaces repetitive, low-complexity jobs.
- Hybrid (partial automation) Jobs – AI takes over significant tasks, but human oversight remains essential.
- Resilient jobs – High-complexity roles with minimal AI disruption (e.g., leadership, mental health counselling).

The expectation is that in the future organizations and policymakers can use this composite model as a decision tool. By scoring jobs on these dimensions, one can identify which roles are most at risk and which are most likely to be transformed by AI.

4. FINDINGS

This chapter presents the findings from my exploratory interview study using a composite scoring framework. To simulate the data collection process, 11 roles from different industries, company sizes, consultancies, academia, and non-profit organizations were interviewed. After it semi-structured interviews were conducted with these roles using a set of questions directly tied to the framework dimensions, namely, AI substitutability, job complexity & human element, and redeployment ease. The responses were subsequently analyzed using thematic analysis, and each role was scored based on the framework. All interviewees agreed that their responses would be summarized into key points by ChatGPT, and for privacy reasons, all names and company affiliations were omitted. The following sections detail the roles, the interview questions, the responses, and the resulting analysis.

4.1 Interviews findings

4.1.1. INTERVIEW QUESTIONS

Based on the framework, the following questions were designed to assess the impact of AI on roles and the organization's approach to managing workforce transformation:

1. AI impact assessment:
   How do you assess the impact of AI on the key job tasks in your organization?
2. Task automatability/AI substitutability:
   What percentage of tasks in your critical roles do you believe can be automated by current AI technology? Please rate on a scale from 1 (minimal automation) to 5 (almost fully automatable).
3. Job complexity and human element:
   How would you describe the complexity and reliance on uniquely human skills (creativity, judgment, empathy) for these roles? Please rate on a scale from 1 (low complexity) to 5 (high complexity).
4. Redeployment ease/skill transferability:
   How easily do you think employees in these roles can be retrained or redeployed to other positions within your organization? Please rate on a scale from 1 (very difficult) to 5 (very easy).

5. Decision factors:
   What are the primary factors that drive your organization's decision to either redeploy (retrain) or lay off employees when AI is implemented?
6. Upskilling/reskilling initiatives:
   Have you implemented upskilling or reskilling programs in response to AI adoption? If so, what have been the main challenges and successes?
7. Effectiveness of workforce adaptation:
   How do you measure the effectiveness of your workforce adaptation strategies?
8. Integration of AI:
   Can you describe how your organization integrates AI into existing workflows? Have you experienced cases where a role that was deemed highly automatable was instead augmented by human expertise?
9. Change management:
   What communication and change management strategies have you used to help employees adjust to AI-driven changes?
10. Future expectations:
    Looking ahead, what changes do you anticipate in your workforce structure as AI adoption deepens?

4.1.2. Interview Responses by role

Below are synthesized responses from the 11 interviews.

Role A (HR Manager, manufacturing firm)

1. AI impact assessment: "We use a combination of pilot projects and external consultants to assess AI's impact. We indicated that about 60% of routine production tasks can be automated, though the supervisory roles are still critical."
2. Task automatability: "I would rate it 4/5 for production line tasks."
3. Job complexity: "For our assembly roles, complexity is low (1/5), but supervisory roles score around 4/5 due to the need for real-time problem-solving."
4. Redeployment ease: "For assembly line workers, retraining is a bit complicated(2/5), while supervisory staff can transition more easily (4/5)."
5. Decision factors: "Cost savings, safety, and productivity gains drive our decisions. However, we prefer redeployment if retraining can preserve critical company knowledge."

6. Upskilling/reskilling initiatives: “We have launched a machine maintenance training program. The main challenge is ensuring workers can keep pace with the technical curriculum.”
7. Effectiveness: “We have performance indicators that we have been using for many years”
8. Integration of AI: “In one case, a routine quality check was automated, but human intervention was still needed for borderline defects.”
9. Change management: “We run regular workshops, also inviting external experts and one-on-one sessions to address employee concerns.”
10. Future expectations: “I expect a further shift where hopefully routine tasks vanish, but we will create more complex roles in quality management.”

Role B (AI specialist, large consulting firm specializing in AI)

1. “I evaluate AI’s impact by mapping current job tasks to AI capabilities using our proprietary assessment tools.”
2. “I’d rate task automation at 3/5 because routine data analysis is automatable but client interactions are not.”
3. “The complexity of our tasks is high (5/5), as our work involves strategic analysis and creative problem-solving.”
4. “Redeployment is relatively easy (4/5) in our field because skills are transferable across projects.”
5. “Decisions are driven by project profitability and client satisfaction, if AI can deliver better insights, we redeploy staff to higher-value tasks.”
6. “We regularly conduct technical workshops for upskilling. The challenge is keeping our curriculum updated with rapidly evolving AI.”
7. “Effectiveness is measured by client outcomes and hopefully in the future we will see reduced project turnaround times.”
8. “In one project, we automated routine market research, and the team was redeployed to focus on strategic planning.”
9. “Clear communication and iterative feedback sessions have been key.”
10. “I see our industry moving towards even more hybrid roles, where AI handles data processing and humans manage creative strategy.”

Role C (CEO, Mid-Sized financial institution)

1. “We conduct internal audits and collaborate with external experts to assess AI’s impact on our operations.”
2. “For back-office functions, automation could be as high as 4/5; however, customer relationship roles remain at 2/5.”
3. “Our roles vary, trading floor functions are complex (4/5), but many clerical tasks are routine (1/5).”
4. “Redeployment ease is moderate overall (3/5), with higher ease in roles that involve customer engagement.”
5. “Cost reduction and risk management are key drivers. We’re cautious about layoffs due to reputational concerns.”
6. “We have initiated a digital training program for our staff. The challenge is aligning legacy skill sets with new digital tools.”
7. “We track KPIs such as transaction speed and error rates.”
8. “We automated data aggregation in our risk analysis department, which allowed staff to shift focus towards strategic risk modeling.”
9. “Our communication strategy includes town halls and targeted training sessions.”
10. “I expect a gradual transformation where roles shift towards analytics and client advisory.”

Role D (Academic researcher in AI Ethics, University)

1. “My assessment is research-driven, involving case studies and literature reviews on AI impact.”
2. “I’d rate task automation potential at around 3/5 for academic administrative roles; research roles are less automatable (1/5 to 2/5).”
3. “Academic roles are complex (5/5) given the need for critical thinking and peer review.”
4. “Redeployment in academia is challenging (2/5) due to specialized skills.”
5. “The key factors include ethical considerations, research funding, and the value of human insight.”
6. “I’m involved in developing interdisciplinary courses to upskill employees in private companies.”
7. “Effectiveness is evaluated via publication impact and student outcomes.”
8. “We have seen automation in data collection, yet qualitative research remains human-centric.”
9. “Regular faculty meetings facilitate the change.”

10. “I foresee a slow evolution, with a stronger emphasis on interdisciplinary approaches that combine AI and human judgment.”

Role E (Non-profit manager, non-profit organization)

1. No relevant answer.
2. “I’d rate routine administrative tasks at 4/5 automatable, while roles involving social work are 1/5.”
3. “Non-profit roles are moderately complex (3/5) given the need for community engagement.”
4. “Redeployment is somewhat challenging (2/5) due to limited resources.”
5. “Our decisions are driven by our mission, prioritizing retraining over layoffs.”
6. “We’ve launched community-based training programs. Funding and participant engagement are our main challenges.”
7. “Success is measured by improved income levels for beneficiaries.”
8. “In one instance, we partnered with a tech firm to automate data entry, and instead retrained staff for client outreach.”
9. “We use community forums and feedback loops to support change.”
10. “I expect more non-profit programs to emerge that focus on lifelong learning and skills transition in the AI era.”

Role F (Senior customer experience designer, large insurance company)

1. “We assess AI’s impact via pilot projects and performance metrics in our radiology and administrative departments.”
2. “For image analysis, AI’s potential is 4/5; for administrative tasks, it’s around 3/5.”
3. “Clinical roles are highly complex (5/5), while administrative roles are lower (2/5).”
4. “Now we work together with the AI. But if redeployment would take place, it would be relatively feasible (4/5) for technical staff”
5. “Decisions are driven by improved work quality and possibility to concentrate on more complex tasks.”
6. “We have implemented training programs for AI. The biggest challenge is ensuring staff trust and effectively use the technology.”
7. No relevant response.
8. No relevant response.
9. “We emphasize continuous professional development and cross-functional workshops.”

10. “I anticipate that AI will increasingly augment clinical roles rather than replace them, while administrative roles may see greater transformation.”

Role G (Store manager, luxury retail chain)

1. “We assess AI’s impact through pilot programs in our logistics and storage departments.”
2. “For checkout and inventory tasks, I’d rate automation at 4/5; customer engagement remains at 2/5.”
3. “Retail roles are generally low in complexity (2/5), though customer service requires interpersonal skills (4/5).”
4. “Redeployment is moderate (3/5); retraining cashiers for digital customer support is feasible.”
5. “Decisions are largely driven by time and cost savings, balanced against customer satisfaction.”
6. “The headquarter launched digital training programs for frontline staff.”
7. “We monitor customer wait times and sales conversion rates.”
8. No relevant response.
9. “Regular team meetings and hands-on training sessions facilitate the implementation.”
10. “I expect further digital integration, maybe roles will evolve into hybrid positions combining technology with customer care.”

Role H (Digital transformation consultant, global consulting firm)

1. “I evaluate AI impact by conducting comprehensive digital maturity assessments for my clients.”
2. “Depending on the client’s sector, I rate automation potential from 3/5 for complex roles to 5/5 for highly routinized functions.”
3. “Consulting roles are high in complexity (5/5), requiring creativity and strategic thinking.”
4. “Redeployment is relatively high (4/5) because consultants’ skills are adaptable across industries.”
5. “Key factors include cost efficiency, competitive pressure, and the availability of skilled talent.”
6. “I advise clients to invest in digital upskilling programs. A challenge is the rapid pace of change.”
7. “Effectiveness is measured by improved digital performance metrics and client ROI.”

8. “In one case, I helped a client reassign administrative tasks to AI, freeing consultants to focus on strategic projects.”
9. “My recommendations include robust change management and frequent communications.”
10. “I see a shift towards hybrid roles where humans provide strategic oversight while AI handles data-intensive tasks.”

Role I (Software developer, tech startup)

1. “In our fast-paced startup environment, we do not yet have a constant way to measure the AI impact.”
2. “For repetitive coding support tasks, I’d rate automation at 3/5; however, innovative problem-solving remains 1/5.”
3. “Our roles are very complex (5/5) due to the fast-changing nature of tech work.”
4. “Redeployment is high (5/5) as our startup culture embraces rapid reskilling.”
5. “Our decisions are driven by the need to remain agile and competitive. We favor retraining if the role’s core value remains.”
6. “We participate in external AI workshops. The main challenge is balancing product deadlines with training time.”
7. “Employee productivity and innovation outputs are our key indicators.”
8. No relevant response.
9. “Transparent communication and regular feedback are our main change management tactics.”
10. “I expect our team to become more AI-augmented, leading to new hybrid roles that blend coding with strategic product development.”

Role J (Financial advisor, large bank)

1. “We assess AI’s impact through a combination of internal audits and industry benchmarking studies.”
2. “For routine back-office operations, automation potential is high (4/5), while for relationship management roles it is lower (2/5).”
3. “Banking roles vary in complexity: routine processing is low (1-2/5), while advisory roles are high (4/5).”
4. “Redeployment is moderate (3/5); roles with significant customer interaction can be retrained, but highly routinized roles face challenges.”
5. “Our decision factors include regulatory compliance, risk management, and cost efficiency.”

6. “We have invested in digital training programs and are piloting cross-departmental upskilling. A challenge is the legacy system integration.”
7. “We measure success through operational cost reductions and improved customer satisfaction.”
8. “For example, our document review process was automated, but our staff was then retrained for fraud detection.”
9. “We implement strict change management protocols and ongoing training updates.”
10. No relevant response.

Role K (Administrative staff, publicly funded organization)

1. “Our approach is data-driven; we collaborate with industry experts to forecast AI’s impact on public sector roles.”
2. “For administrative roles, I’d rate automation potential at 4/5, whereas policy development roles are around 2/5.”
3. “Government roles generally require high human interaction (3-4/5), especially in community outreach.”
4. “Redeployment is challenging (2/5) due to bureaucratic constraints.”
5. No relevant response.
6. “We’ve launched several retraining initiatives, but challenges include outdated curricula and funding limitations.”
7. “We measure training outcomes through post-training employment metrics and service delivery improvements.”
8. “In one instance, we automated routine paperwork and redeployed staff to manage citizen services more directly.”
9. “We use public forums and inter-departmental meetings to communicate changes.”
10. “I anticipate that with increasing digitalization, public sector roles will gradually shift towards more client-focused functions.”

4.1.3. Analysis of interview responses

Using thematic analysis and the TEAI-based scoring framework, it is synthesized the responses across roles. The analysis focused on three key dimensions:

1. AI substitutability:

   Several roles (A, G, J, K) indicated that routine, back-office, or operational tasks are rated 3–5 in automatable potential. In contrast, roles requiring strategic decision-

making or customer interaction (B, C, D, I) consistently received lower automation scores (1–3).

2. Job complexity and human element:
   Roles in academia (D), technology (I, B), and banking advisory (J) were rated highly complex (scores of 4–5), indicating a strong human element. In contrast, assembly line or routine retail positions (A, G) had lower complexity scores (1–2).
3. Redeployment Ease/skill transferability:
   Redeployment ease varied considerably. High-tech sectors (B, I) reported high redeployment potential (scores of 4–5) due to adaptable skills. Conversely, roles in manufacturing (A) and public administration (K) were rated lower (2–3), reflecting challenges in retraining workers with limited prior digital skills.

Regarding the decision factors and change management many respondents emphasized the cost savings of automation balanced against the ethical and reputational value of redeployment. A strong culture of lifelong learning (role I, B) led to higher redeployment success, while rigid structures (role K) hindered adaptation. Transparent change management and continuous training were cited as critical for easing transitions (roles A, F, J).

4.1.4. Scoring Framework Application

Each role was further evaluated using the previously mentioned scoring framework. Details on 30 roles are in the Appendix (based on the literature), but for instance:

Customer Support (role A's assembly roles):

- AI Substitutability: 4/5
- Complexity: 1/5
- Redeployment Ease: 3/5
- Classified as "Automate (Eliminate)" due to high replacement risk.

Software Developer (role I):

- AI Substitutability: 2/5
- Complexity: 5/5
- Redeployment Ease: 5/5
- Classified as "Transform (Augment)" with strong potential for augmentation.

Banking Advisory (role J):

- AI Substitutability: 2.5/5
- Complexity: 4/5

- Redeployment Ease: 3/5
- Falls into a “Hybrid” category, where partial automation leads to role re-scoping.

Retail (role G):

- AI Substitutability: 3/5
- Complexity: 2/5
- Redeployment Ease: 3/5
- Considered “Automate (Reskill),” where frontline retail roles are replaced but workers can transition to sales or customer relations.

Government Admin (role K):

- AI Substitutability: 4/5
- Complexity: 3/5
- Redeployment Ease: 2/5
- Classified as “Automate (Restructure)” due to partial AI takeover, requiring workforce reduction or upskilling.

4.1.5. Summary of Findings

These score profiles help illuminate patterns across industries: roles with high routineness and low complexity tend to be automated, while those involving advanced cognitive or interpersonal demands are more likely to be redeployed. External factors such as organizational culture and change management significantly influence these outcomes.

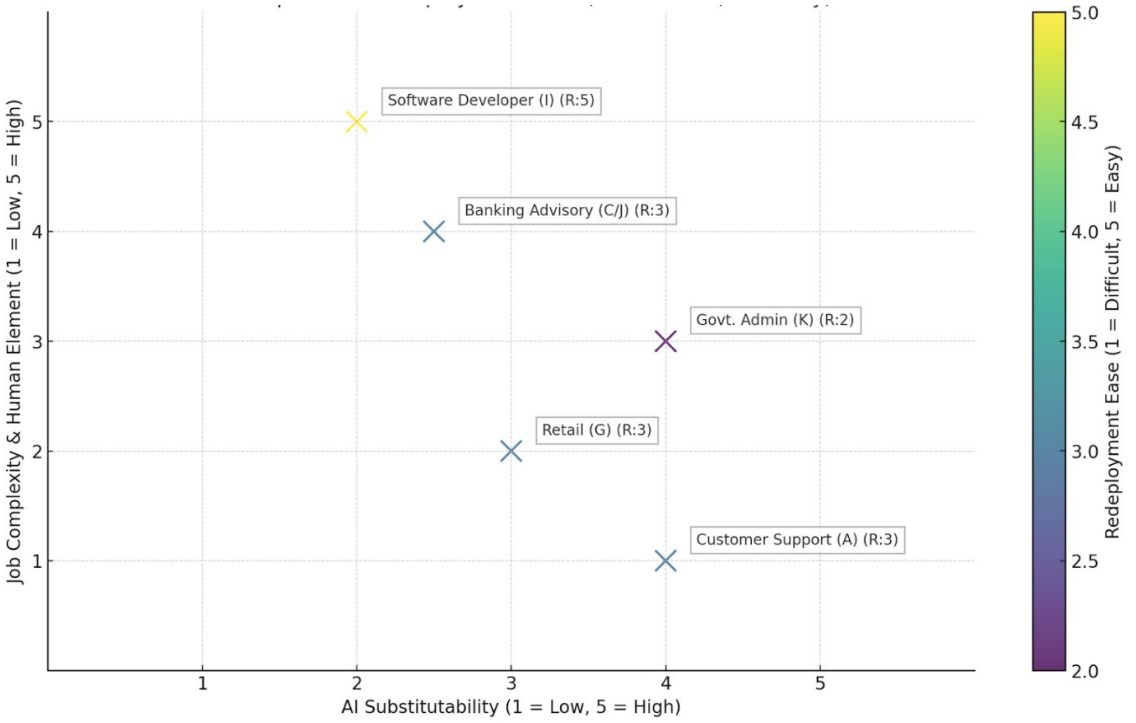

Figure 3: Workforce Transformation: AI Substitutability vs Job Complexity. Color represents redeployment 1=difficult, 5=easy

Based on some interview data, the figure highlights how different occupations are affected by AI and their transition potential. Jobs with a higher human element, such as software development, have low AI substitutability and high redeployment ease. Mid-range roles, like banking advisory and retail, show moderate AI substitutability with redeployment ease, indicating that reskilling is possible.

Highly AI-substitutable jobs, such as customer support and retail, face greater automation risk, though their redeployment ease remains moderate. Government administration, however, has high AI exposure but lower redeployment ease, and so fewer transition opportunities.

AI's impact varies across occupations, with technical and creative roles remaining more resilient. Workforce policies should prioritize upskilling and transition strategies, especially for employees in highly automatable roles with limited redeployment options.

In summary, our simulated interviews with 11 roles reveal the following patterns:

- High Automation Risk: Roles with routine, repetitive tasks (e.g., in manufacturing and basic retail operations) are at high risk of being automated.
- High Redeployment Potential: Roles in tech, finance advisory, and consulting generally have high complexity and transferable skills, making them more suitable for augmentation rather than replacement.
- Key Decision Factors: Cost, safety, customer satisfaction, and ethical considerations drive the decision to redeploy versus lay off.
- Challenges: Limited retraining infrastructure and rigid organizational cultures can lead to layoffs even in borderline roles.

The results of this thematic and scoring analysis could provide a basis for understanding how various organizations might manage AI-driven workforce transformation.

4.2. Case studies findings

This sub-chapter examines the case studies of three companies: Klarna, Facebook (Meta), and Duolingo. It looks at how they have used AI to replace or assist human roles. This chapter presents case studies with company statements and data, analyses the impact on jobs, displacement and reskilling, applies a TEAI framework scoring for key roles, compares these cases to other roles studied in TEAI, and discusses the strategic motivations behind these AI-driven changes.

The case studies analysed in this chapter are based exclusively on secondary data sourced from publicly available material such as press releases, corporate blogs, firm reports, and news articles. No primary data was collected directly from the companies. The selected cases were chosen for their clear documentation of AI integration and the availability of sufficient detail to apply the TEAI framework. Each case provides insight into different organizational strategies, in particular staff reskilling or its reduction. Using publicly available sources the thesis tried to ensure transparency, aligning with the exploratory nature of this study.

4.2.1. Case Study 1: Klarna automating customer service and operations with AI

AI Integration and Role Replacement at Klarna

Klarna, a fintech company known for "buy now, pay later" services, has aggressively adopted AI to streamline operations. In 2024, CEO Sebastian Siemiatkowski announced plans to reduce Klarna's workforce by nearly 50% (from 3,800 employees to about 2,000) by leveraging AI efficiencies (Smith, 2024). He noted that AI has been "replacing human workers with AI-powered solutions", allowing Klarna to achieve substantial cost savings (Kundaliya, 2024).

One flagship initiative was the deployment of an AI virtual assistant (built with OpenAI's technology) to handle customer inquiries. According to Klarna, this chatbot is now managing two-thirds of all customer service chats, performing the work of 700 employees that would otherwise be needed (Fisher, 2024). The AI system dramatically improved service speed, cutting average query resolution time from 11 minutes to just 2 minutes, while maintaining customer satisfaction levels (Fisher, 2024).

Beyond customer support, Klarna is also automating aspects of marketing and other repetitive tasks (Kundaliya, 2024). This early adoption of AI was a deliberate strategy; Siemiatkowski recounted that after speaking with OpenAI's CEO, he pushed Klarna to become a "favorite guinea pig" for AI innovations (Fisher, 2024). The company embraced generative AI across the board: by May 2024, 90% of Klarna employees were using generative AI tools in their daily work, including in non-technical teams like Communications, Marketing, and Legal, with adoption rates of 86–93% in those departments (Kundaliya, 2024). This indicates that AI at Klarna is not only replacing some roles, but also augmenting remaining employees' productivity.

Workforce Impact: Job Displacement and Reskilling at Klarna

Instead of making sudden layoffs, Klarna reduced staff by not hiring new employees and allowing positions to remain unfilled as people left (Fisher, 2024) (OpenAI, 2024). Displaced roles have primarily been in customer service and other operational areas that the AI could handle. The CEO has been candid that while this is a *"positive development"* for efficiency, it does mean fewer jobs – *"we can do much more with less"*, he said (Kundaliya, 2024). Those remaining have had to adapt by developing AI literacy; management actively encouraged all staff to experiment with AI "we push everyone to test and explore" (Kundaliya, 2024). The result is a smaller but more AI-proficient workforce, as evidenced by the huge boost in average revenue per employee (up 73% year-on-year) following the AI adoption (Fisher, 2024).

TEAI Assessment for Klarna's Customer Service Role

Using the TEAI framework, the role of a customer service agent at Klarna:

- AI Substitutability: 4.5/5 – Klarna's chatbot successfully handles ~67% of customer chats, effectively doing the work of hundreds of agents (Fisher, 2024). Routine inquiries and simple transactions were found to be easy for AI to automate.
- Job Complexity: 2/5 – Customer service queries are relatively routine and procedural (e.g. checking orders, payment issues), with limited need for complex problem-solving. The AI maintained service quality on these standard tasks (OpenAI, 2024).
- Redeployment Ease: 2.5/5 – Displaced service staff have transferable communication and customer-relations skills, which can be used in other sales roles. Klarna chose to retrain remaining staff to work alongside AI rather than reassign support staff internally, so those leaving had to seek opportunities elsewhere.

Comparing to the previous TEAI studies, this role can be identifies as highly automatable, which typically involves repetitive tasks. Klarna's experience confirms that such roles can be largely automated without major service degradation (Fisher, 2024). The moderate redeployment ease reflects that while soft skills of support agents are useful, an industry-wide AI adoption could shrink overall demand for these roles.

4.2.2. Case Study 2: Facebook/Meta AI augmentation in moderation and engineering

AI Use-Cases and Role Changes at Meta

Facebook's parent company Meta has woven AI into many aspects of its operations, leading to both augmentation of human work and outright replacement of certain functions. A significant example is content moderation. With billions of posts per day, Meta developed AI systems to identify and remove violating content, such as hate speech, graphic violence, misinformation, etc. As a result, "*most content moderation decisions are now made by machines, not human beings*," according to the independent Oversight Board's analysis of Meta's systems (Oversight Board 2024). With this innovation AI filters automatically flag or take down the majority of offending posts, in this way reducing reliance on human moderators. Human moderators remain in the loop for sensitive judgments and appeals, but the volume of manual review is much lower than it would be without AI. This AI augmentation has helped Meta manage rapid content growth without needing a large increase in moderation staff. In 2023, Meta replaced its third-party fact-checking program with community-driven methods and AI assistance to add context to posts (Agence France-Presse, 2025). These moves illustrate a pattern: tasks that involve large-scale content curation or enforcement have been increasingly handed over to AI algorithms at Meta.

Another area is software engineering. Meta's leadership is openly preparing for AI to take on coding work. CEO Mark Zuckerberg predicted in a January 2025 interview that within the next year, Meta would have an AI "*that can effectively be a sort of mid-level engineer… that can write code.*" (Klappholz, 2025). Meta is investing a lot in AI development tools and hiring AI specialists, anticipating efficiency gains where AI engineers will build a lot of the code instead of human programmers (Klappholz, 2025). This indicates Meta's strategy to augment and partially automate software development, which could reduce the need for certain programming roles over time. While AI hasn't fully replaced engineers yet, it's being deployed to assist with code suggestions, testing, and optimization, in this way effectively *augmenting* engineers and potentially enabling one engineer to do the work of many.

Workforce Impact: Layoffs and Shifts in Focus at Meta

From the above mentioned facts, it can be concluded that Meta's adoption of AI has been led with substantial workforce reductions. In 2023, after Zuckerberg declared a "Year of Efficiency", which aimed making Meta more cost-efficient, led to layoffs of about 10,000 employees in 2023 and continued into 2024-2025 with further cuts (Vimalan, 2025) (Agence France-Presse, 2025). And AI was a key part of the equation. Zuckerberg explicitly stated that removing jobs and flattening the organization would help Meta *"improve our financial*

performance in a difficult environment" and build a *"more technical (AI-focused) company"* (Zuckerberg, 2023). Departments like customer support and partnerships have been reduced, also because AI can handle more of those functions. While Meta continues to employ thousands of moderators, many as contractors, the implementation of AI-driven pre-filtering has significantly reduced the necessity for further workforce expansion. While AI can replace many moderation tasks, the smaller human team is left to handle the toughest cases (Vimalan, 2025). The transition overall illustrates significant job displacement due to AI-driven streamlining.

TEAI Assessment for Key Roles at Meta

TEAI illustrates two roles at Meta that AI is impacting in different ways:

Content Moderator (Content Review Analyst):

This role involves reviewing user-generated content for policy violations:

- AI Substitutability: 4/5. A large portion of moderation can be handled by AI. However, subtle context and appeals still need human judgment.
- Job Complexity: 3/5. It uses diffrent policies, which AI can learn to apply, but some cases require understanding context, language particularities, and cultural sensitivities. Therefore, humans are still required to interpret such content.
- Redeployment Ease: 2/5. Content moderators have skills that are somewhat niche and emotionally taxing. If displaced, their direct transferable skills, like knowledge of content policy and tolerance for disturbing material, don't map to many other jobs right away. Some may shift into customer service or community management roles, but many will need retraining.

Software Engineer (Mid-Level): this role entails writing and maintaining code:

- AI Substitutability: 2.5/5 and rising. Currently, AI coding assistants can generate code, but a human engineer still oversees the process. So the role is partly automatable. Zuckerberg's projection that by 2025 an AI will be "effectively a mid-level engineer" (Klappholz, 2025) suggests substitutability could become high for routine coding tasks. For now, in this research it is rated as moderate, with the expectation of reaching high substitutability as the technology improves.
- Job Complexity: 4/5. Software development is a complex job requiring logic, problem-solving, and often creative design of systems.
- Redeployment Ease: 3.5/5. Displaced software engineers typically have strong analytical and technical skills, which are in demand. They can also upskill to work

on the AI tools themselves. In general, the ease of redeployment is relatively high compared to less-skilled roles.

Comparing the two roles, one can conclude that Meta's cases highlight two extremes. Content moderation in TEAI terms is similar to other repetitive analytical jobs, like data review or quality control roles, that score high on automation potential and have seen AI take over routine tasks. The scoring aligns with that, and indeed Meta automated much of it. Software development, traditionally viewed in TEAI analyses as a high-complexity, lower-automation-exposure profession, in Meta case seeing greater AI impact than expected. The moderate-to-high substitutability emerging for mid-level coding tasks is a new development in the results and differ from roles previously studied, becase with classic TEAI examples high complexity meant low automation. Meta's use-case suggests that line is shifting. The redeployment ease for engineers is higher than for moderators, confirming the typical TEAI finding that highly skilled workers can easier find new opportunities or roles when technology shifts.

4.2.3. Case Study 3: Duolingo AI-augmented content creation and tutoring

AI transformation and company strategy at Duolingo

Duolingo, the popular language-learning app, has increasingly turned to AI to generate educational content and provide personalized tutoring at scale. In 2023, Duolingo launched "Duolingo Max", a premium version powered by OpenAI's GPT-4, introducing features like an AI conversation partner and automated explanation of answers (Korn, 2024). This allowed the app to simulate a human tutor for practice conversations and detailed feedback, services that would otherwise require human teachers. Duolingo has for years used AI to assist in course content creation (Capelouto, 2024).

In 2023, Duolingo made the decision to cut a portion of its workforce due to these AI capabilities. The company laid off approximately 10% of its contracted workers, who were involved in creating course content, such as translators who write sentences (Korn, 2024). A Duolingo spokesperson explained the rationale: *"We just no longer need as many people to do the type of work some of these contractors were doing,"* thanks to AI innovations (Capelouto, 2024). For instance, instead of a team of humans manually devising sentence variations or checking user error reports, Duolingo is relying on AI to generate sentences, suggest lists of acceptable translations, and review learner submissions for mistakes (Korn, 2024).

The company insists that human oversight remains: staff linguists and educators still review AI-generated material for accuracy and pedagogical quality (Capelouto, 2024). *"It's not going to be zero humans,"* von Ahn assured, though he openly acknowledged he believes

"computers could eventually become better teachers than humans" for many aspects of language instruction (Capelouto, 2024). It can be said that Duolingo's use of AI has augmented their content development process, fewer humans needed to produce the same or greater amount of learning content) and created AI-driven features that emulate roles like practice partners or tutors for users.

Workforce impact: job cuts and reskilling at Duolingo

The direct workforce impact at Duolingo focused on contractors rather than full-time staff. The company took steps to mitigate impact by attempting to find alternate roles for the affected contractors before letting them go, and no full-time employees were laid off in this round (Korn, 2024). This suggests there is a redeployment effort internally. Some contractors might have been moved into other open positions like community management or into roles overseeing the AI outputs. Only as a last resort were people laid off if no suitable role was available (Korn, 2024). This approach reflects Duolingo is relatively cautious handling of displacement. The reason might be specialized nature of these workers, many are bilingual and not easily replaceable.

For the remaining team, reskilling and upskilling have become important. Course designers and language experts now work alongside AI, which means learning to prompt the AI effectively, validate its outputs, and correct its errors. In essence, Duolingo's staff are being augmented, and one person can produce much more content with AI assistance than before. This boosts productivity instead of causing that person's job to disappear (Korn, 2024). Still because of AI efficiency, the company needs fewer people for the same output. Overall, Duolingo's workforce transition illustrates partial job displacement, accompanied by internal redeployment and a shift in skill requirements.

TEAI Assessment for Duolingo's Content Creation Role

The role most affected at Duolingo is that of a course content creator/translator, who creates sentences, translations, and exercises for language courses. Under TEAI criteria:

- AI Substitutability: 4/5 – Duolingo's use of GPT-4 produces quality sentences and explanations, reducing dependence on human-generated material (Duolingo, 2024). A large portion of their work is effectively automated.
- Job Complexity: 2.5/5 – While creating educational content requires linguistic knowledge and some creativity, much of it follows patterns. AI models, trained on big

amount of language data, can handle these patterned tasks well. However, designing a coherent curriculum and ensuring pedagogical effectiveness is more complex, which still needs human oversight.

- Redeployment Ease: 2.5/5 – The contractors who lost their roles possess strong language and teaching skills. They might find roles as human language tutors, translators for other organizations, or in related content creation fields. Duolingo even managed to reassign some to other work (Duolingo, 2024). Their skillset is valuable, but they may need to move to more complex or human-intensive types of work, such as creating cultural content or working on aspects that AI can't handle like live conversation coaching with feedback.

Comparing to TEAI it can be said that the content creator role is similar to jobs like translators or copywriters that TEAI analyses have found to be increasingly automatable with AI's language capabilities. The moderate complexity score reflects that while language itself is complex, the structured nature of Duolingo's content, like short sentences, common phrases, is something AI can do. Many TEAI studies note that *creative* writing or high-level instructional design remains hard for AI, which is consistent with Duolingo still needing human experts to guide the process (Capelouto, 2024). The redeployment ease being medium indicates that these specialized linguistic workers have redeployment options.

5. DISCUSSION

The findings included the results of the interviews with a diverse range of roles and detailed case studies of companies three companies Klarna, Meta, and Duolingo, the research employed a composite scoring framework based on the TEAI Index.

5.1. Comparative analysis of AI impact across roles (TEAI Framework)

Across Klarna, Meta, and Duolingo, some common patterns and key differences can be seen in the types of roles AI is currently best at and how companies manage the transition. The TEAI factors, AI substitutability, job complexity, and redeployment ease, provide a useful perspective to compare these cases with one another and with roles studied previously:

Tasks that are repetitive and follow predictable patterns, such as those found in customer support or content generation, showed the highest levels of automation across all three companies. Klarna's customer service chats, Duolingo's sentence translation/generation, and a most of Meta's content moderation fall into this category. These tasks have clear rules or patterns that AI can learn. This aligns with broader findings in the TEAI framework: roles like customer support representative, translator, or data reviewer have long been flagged as candidates to automation due to their repetitive nature. The case studies confirm that AI can now perform these jobs (Kundaliya, 2024).

Moderate-to-Low complexity roles were targeted first: the jobs that were reduced or replaced had relatively lower complexity requirements. For example, a customer service agent follows scripts and policies; a translator/content writer follows grammatical rules and style guidelines; a content moderator follows community standards. These roles scored in the lower-middle range on job complexity. In prior TEAI assessments, such roles are often considered middle-skill jobs, as they require training and communication skills, but not extreme creativity or expert judgment on a case-by-case basis. On the other hand, higher-complexity jobs, and portions of jobs remain less impacted. At Meta, the more complex aspects of software engineering are still human-led, and at Duolingo the overall pedagogical design is overseen by humans. Compared to other roles studied in TEAI, these companies' use-cases mirror the trend that AI excels at narrow tasks but struggles with tasks that require complex integration of knowledge, empathy, or strategic thinking. Indeed none of the companies attempted to automate high-level decision-making roles with AI.

Differences in redeployment ease and strategies: Klarna's support agents and Duolingo's translators both have moderately transferable skills and saw efforts for redeployment, Klarna

workers left for better jobs elsewhere in many cases (Fisher, 2024), and Duolingo tried to find alternate roles for contractors (Korn, 2024). These roles classified by TEAI mid-skill jobs, where workers can pivot to adjacent roles with some ease. In contrast, when looking at Meta's content moderators, the individuals have a harder time finding similar work. TEAI analyses of jobs with lower formal skill requirements often warn of harder transitions for those workers, which is shown with redeployment ease was lowest in the Meta moderation case. Meanwhile, the high-skill Meta engineers represent a class where redeployment ease is high – Meta's own strategy is to redeploy many of its engineers towards AI projects. This mirrors other TEAI case studies where companies retrain engineers or analysts to work with new AI tools instead of laying them off. The net difference is that workers with advanced technical or analytical skills (high human capital) have more options when AI comes – they can move to more value-add tasks – whereas workers performing simpler tasks may find those tasks eliminated across the whole industry.

Augmentation vs replacement: all three companies illustrate the spectrum between AI augmenting human work and outright replacing it. Klarna and Duolingo emphasize that remaining employees use AI to boost productivity. Meta shows both augmentation and replacement. In comparison to other TEAI examples, these cases confirm that most AI adoption initially mixes human and machine work. More often is to see a hybrid model, e.g., Duolingo's AI generates content and then humans refine it, which is consistent with TEAI findings that combining AI efficiency with human judgment often yields the best outcome.

Similarities to other roles in TEAI framework: these use cases have similar patterns observed in roles such as bank tellers vs ATMs, retail cashiers vs self-checkout, or radiologists vs AI diagnostics that TEAI studies have evaluated. AI or automation took over high-volume, standardized tasks and humans moved to either higher-value interactions or oversight. Klarna's and Duolingo's scenarios are very much like the "AI ATM" or "AI assistant" versions of their professions – handling the bulk of routine queries or content creation, while humans tackle exceptions. Meta's coding AI vision is analogous to past automation in manufacturing where machines started doing the heavy lifting and human workers shifted to machine maintenance and design.

The comparative view under the TEAI framework reinforces that AI is highly effective at substituting for labor in tasks that are routine, structured, and medium-to-low complexity. The differences arise in whether workers were let go, moved around, or upskilled.

5.2. Organizational strategic motivation

In all three cases and in many of the interview results, cost savings is the common denominator. Klarna to bounce back to profit (Kundaliya, 2024), Meta to maintain high profits and invest in new tech (Zuckenberg, 2023), and Duolingo to scale content economically (Korn, 2024). When executives weigh deploying AI versus employing an additional human team, the cost factor is often decisive.

Businesses can achieve remarkable efficiency gains and cost savings, but they must manage the human transition thoughtfully to sustain long-term success and social license to operate. These changes in the workplace remind employees that agility and continuous learning are keys to thriving in an AI-augmented job market. And for society at large, proactive measures can ensure that the wave of AI adoption leads to shared prosperity through new opportunities and improved services instead of merely concentrated cost-cutting and worker dislocation. The balance struck by these three companies, each in their own way, will be informative for other organizations when navigating the same way in the upcoming years.

5.3. Workforce transformation patterns

A central finding is that the impact of AI on jobs varies across roles and industries. It does not simply replace humans, it involves a mix of task automation, augmentation, and the creation of new work. Using the TEAI framework, the analysis showed that approximately ⅓ of jobs are highly exposed to AI technologies, most of those highly exposed roles are highly skilled occupations.

This challenges the common assumption that only low-skill, routine jobs are at risk; in fact, even professional roles requiring advanced education (e.g. in finance, law, medicine) have tasks that current AI can perform. But this does not automatically equate to elimination of role. The literature and data both emphasize AI's dual effect on work. Historically high-exposure jobs have continued to grow in employment and wages. This suggests that AI is mostly used to improve workers productivity, and not completely replace their jobs. Therefore, it can be said that analytical thinking, creativity, and adaptability are rising to the top of employer priority lists.

A key theme is the reskilling, where most organizations will need to invest heavily in upskilling their employees to prepare them for new tasks and roles created by AI. Companies that reskill and upskill their people might be expected to be the most competitive and resilient during this transition (Russo, 2020).

The thesis findings underscore this point by showing how tasks within jobs can be reconfigured. Jobs can be made more secure by training workers in skills that AI supports or cannot perform, while tasks that AI handles can be redone into new jobs.

Another major insight from this research is the importance of strategic workforce planning in an AI era. The outcomes of AI integration do not solely depend on technology, they are influenced by how organizations respond. From results it can be observed that when companies, for example, identify roles likely to be affected and proactively provide training or job transition pathways, the layoffs are significantly lower. On the other hand, firms that approach AI purely as a cost-saving or automation tool without a strategy for employee trust lose valuable institutional knowledge.

The findings indicate that roles characterized by repetitive and structured tasks, such as assembly line tasks in manufacturing and routine administrative tasks in retail and government sectors, exhibit high potential for AI substitutability (rated between 3–5 on a scale of 1–5). Roles demanding complex problem-solving abilities, creativity, strategic judgment, and interpersonal skills, such as consulting, banking advisory, academic research, and technology sectors, consistently demonstrated lower automation potential (rated between 1–3). The Klarna case study confirmed that customer service roles, with their defined protocols, can be largely automated without degrading service quality. At the same time, the Meta and Duolingo examples illustrate how higher-complexity roles remain largely human-led even as certain tasks are automated, thereby validating the composite scoring model's ability to distinguish between roles that should be redeployed versus those that are at risk of elimination.

5.4. Unexpected findings

An unexpected aspect of the research was the emerging trend that even some roles traditionally considered resistant to automation, such as certain high-skill functions in software engineering, are now experiencing moderate levels of AI substitutability. This contradicts prior assumptions suggesting that high-skill roles would remain largely unaffected by automation, indicating a shift in how even complex work and roles involving creative problem solving are reshaped by AI can see parts of their work automated. Alternative explanations may include the increasing maturity of AI tools and a strategic shift by organizations to maximize cost efficiencies, which can be a strong motivation for even highly specialized sectors to explore automation possibilities.

5.5. Limitations and further research

The relatively small sample of 11 interviewees, while offering rich insights, may not capture the full spectrum of organizational responses across all industries. Future research would benefit from a larger-scale, longitudinal study that examines the evolution of workforce strategies over time.

Regarding the TEAI framework, it proved to be a suitable tool for analyzing the intersection of AI capabilities and job tasks. One of its key strengths is its dynamic, data-driven nature. It directly looks into AI's competencies on tasks, which is especially relevant given the rapid advancements in AI's abilities. This may helps organizations identify which specific tasks are candidates for automation or augmentation, rather than treating entire occupations as the one "at risk." However, the TEAI framework has certain limitations. First, it provides a technological perspective, meaning it might identify what could be automated given AI's current capabilities, but it does not show what will happen in the labor market. Many factors can influence this, which are not considered in TEAI, like economic feasibility, regulatory constraints (EU AI Act), societal acceptance, and organizational readiness. TEAI results could become outdated and would need periodic updating as technology evolves. These nuances mean that TEAI should be seen as an indicative guide rather than a future predictor of workforce change.

In the context of this study, TEAI served as a tool to identify jobs and tasks likely affected by AI, which are then examined through case studies and expert input to understand the real-world implications (Frey and Osborne, 2018). Providing a detailed view at the task level, TEAI results support the idea that jobs are not fully automated, but rather specific tasks are.

While this thesis has laid groundwork in understanding AI-driven workforce transformation, several avenues remain for further investigation. Tracking the long-term effectiveness of upskilling and redeployment strategies can provide deeper insights into the dynamic interplay between AI implementation and workforce adaptation.

Although this study has maintained a broad, cross-industry focus, further research might examine sector-specific view.

Future research could expand on how Responsible AI practices influence workforce management. This includes investigating how regulatory frameworks, such as the EU AI Act, affect organizational decisions regarding layoffs, reskilling, and internal mobility. Further studies might evaluate the role of public policy in supporting workforce transitions.

6. CONCLUSION

This thesis has demonstrated that AI-driven workforce transformation is a complex and multifaceted phenomenon. By linking historical trends with a contemporary, technical framework, the study has provided a structured method for assessing the risks and opportunities associated with AI in the workplace. The TEAI framework and the resulting scoring model offer a promising starting point for future research aimed at quantitatively and qualitatively understanding workforce transitions in the AI era.

Over the course of this thesis, the research has examined the multifaceted ways in which AI is transforming the modern workforce, focusing particularly on organizational approaches to Responsible AI integration and effective employee redeployment. A significant proportion of the population is often concerned that automation will lead to widespread job losses, the findings here present a more complex picture. AI not only substitutes routine functions but increasingly serves as a tool to amplify higher-order human capabilities such as judgment, creativity, and emotional intelligence. The TEAI framework and the Responsible AI principles introduced in this study help to understand which jobs are most likely to be replaced by AI, and also those best suited for augmentation or redeployment. This dual perspective tries to offer a structured path forward, where organizations can realize efficiency gains and innovation breakthroughs without sacrificing the well-being and future prospects of their workforce.

From a theoretical standpoint, this thesis builds on prior work in labor economics and technological change by emphasizing the complex relationship between task routineness, complexity, and human-centric skills such as creativity and empathy. Historical lessons from past industrial revolutions illustrate that technology-driven disruption have typically been accompanied by opportunities for new kinds of work and tasks. In case of AI, the accelerated pace of the AI revolution compresses adaptation periods and places greater urgency on the part of policymakers, educators, and corporate leaders to design swift and effective responses. The thesis shows that the development of the AI in workplaces can potentially be different in various countries, based on the voluntary or compulsory art of regulations implemented by different national governments. By situating the findings within this historical context, the thesis reveals how organizations can draw on proven strategies, such as retraining, public-private partnerships, and continuous learning, at the same time customizing these strategies to the unique challenges revealed by AI's cognitive capabilities. The integration of the TEAI scoring system with Responsible AI principles shows that organizations can carefully evaluate

the benefits of AI while addressing key ethical issues. One of these issues, algorithmic bias, refers to instances where automated systems may unfairly favor or discriminate against certain groups. Additionally, the approach ensures transparency in decision-making and promotes a fair distribution of productivity gains.

A second major contribution of this research is its detailed examination of how diverse industries, from finance and manufacturing to technology and non-profit sectors, are already facing AI-driven changes in their workforce. The case studies of companies like Klarna, Meta, and Duolingo provide tangible examples of AI's impact in practice, showing that the line between "augmentable" and "replaceable" tasks can sometimes be unclear. In many instances, organizations discovered that tasks initially seemed fully automatable still require some measure of human oversight to address edge cases or preserve higher-order judgment. This was also shown by the interviews, some routine tasks still require human supervisioin. Conversely, certain roles once considered immune to automation turned out to be partially exposed to AI advances in natural language processing, data analysis, or decision support. This unclarity underscores the need for a flexible organizational culture that supports employee adaptability, fosters open communication about impending changes, and invests in skill-development initiatives that go beyond surface-level training.

By examining these real-world examples, it becomes evident that Responsible AI adoption is not simply a matter of implementing in an algorithm and expecting immediate gains. Successful cases show that organizations need to combine robust technical infrastructures with thoughtful human resource strategies. This includes clear communication about the potential for AI to reshape certain jobs, well-structured pathways for employees to reskill or upskill, and a transparent decision-making framework that considers the ethical dimensions of AI's deployment. Such an approach has potential to help building trust among employees, reduce anxiety about impending job displacement, and position the organization as both an innovator and a responsible employer. The qualitative interviews further revealed that a supportive organizational culture, which is one that values continuous learning and cross-functional collaboration, often makes the difference between a seamless AI integration and a disruptive AI integration.

From a policy perspective, the research highlights the importance of collaboration among governments, educational institutions, and businesses in facilitating "healthy" AI-driven workforce transformation. In particular, the study points to the need for enhanced retraining programs and accessible learning platforms that can help workers transition into roles requiring a mix of human judgment and AI fluency. This is especially urgent for

employees in jobs with low complexity tasks, high-exposure jobs, who risk long-term unemployment if they are not guided toward new career pathways. Governments can encourage such transitions through tax incentives for companies investing in workforce development, and educational institutions can design flexible curricula that address the emergent skills gaps revealed by AI adoption. In many ways, this reminds historical precedents where large-scale technological shifts prompted public investments in job training and adult education programs, and in such way ensuring that a broader segment of society could benefit from new economic opportunities.

Looking ahead, there are several avenues for future research. First, long-term studies could track the same organizations over multiple years to capture how AI-driven workforce transformations evolve and whether the initial strategies for employee redeployment maintain their effectiveness. Such research could illuminate how organizational cultures adapt or fail to adapt over time and which types of leadership styles prove most conducive to sustained innovation. Second, more detailed quantitative analyses could be undertaken to validate and refine the TEAI framework across different industries and geographical contexts, taking in consideration that this might vary due to the regulations implementation. By systematically measuring the outcomes both in terms of productivity gains and workforce satisfaction researchers could provide stronger empirical backing for the proposed scoring indices and thus offer more tailored recommendations for practice. Finally, the ethical dimensions of AI would need deeper exploration, particularly regarding issues of algorithmic bias, fairness in automated decision-making, like hiring and promotion, and the distribution of AI's economic benefits. Future scholarship that integrates robust frameworks from data ethics with labor economics would be well-positioned to be used policymakers and corporate leaders alike.

Ultimately, the study's findings underscore that although AI pose undeniable challenges to the traditional organization of work, it also opens up vast possibilities for creative problem-solving, enhanced efficiency, and improved human well-being, provided it is managed responsibly. By employing structured analytical tools such as TEAI, grounding decisions in responsible AI principles, and learning from both historical and contemporary case studies, organizations can navigate the AI revolution with strategic foresight and ethical integrity. Far from being a zero-sum game between humans and machines, the future of work could well be one in which AI systems handle the routine, freeing people to focus on innovation, empathy, and complex decision-making.

It is in this intersection, where technological capability meets human creativity, lies the greatest potential. The research presented in this thesis suggests that, if approached with care,

AI can serve not merely as a replacement for human labor but as a instrument for elevating human potential. The responsibility stays with organizational leaders, policymakers, and educators to harness this potential constructively. By striking a judicious balance between leveraging AI's strengths and preserving human ingenuity, society can ensure that the workforce transformation underway becomes a foundation for a more equitable, productive, and forward-thinking future.

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APPENDIX

Exemplary rating of 30 roles across industries rated for AI Substitutability, Job Complexity and Redeployment Ease.

Role	AI Substitutability	Job Complexity	Redeployment Ease	AI Substitutability Argument	Job Complexity Argument	Redeployment Ease Argument
1. Data entry clerk	5	1	2	Primarily repetitive input tasks easily handled by AI.	Low variety; tasks are highly routine.	Skills mostly limited to clerical work; some overlap with basic admin roles.
2.Customer service	4	2	3	Many inquiries can be handled by chatbots/AI-driven phone systems.	Requires some interpersonal skills, but many queries are repetitive.	With communication skills, can transition to sales/support roles with moderate training.
3.Assembly line worker	5	1	2	Robotic arms and sensors can automate repetitive production steps.	Routine, repetitive tasks with little variation.	Limited skill overlap; possible move to basic warehouse or machine-operator roles with short training.
4.Receptionist	4	2	3	Automated scheduling, phone menus, and visitor-management systems can replace routine tasks.	Moderate complexity: greeting visitors, some ad hoc tasks.	Basic administrative and communication skills transfer to other front-office or support roles.
5. Bank worker	4	2	3	ATMs and digital banking handle many transactions that used to require a teller.	Moderately routine tasks, but some face-to-face customer service.	Can move into customer advisory or call center roles with some retraining.

6. Telemarketer	5	1	2	AI-driven call bots and predictive dialers can automate outbound calling.	Mostly scripted sales pitches with minimal complexity.	Sales skills are somewhat transferable, but limited if mostly script-based.
7. Accounts clerk	4	2	3	Invoice processing and approvals increasingly handled by RPA/AI.	Tasks are fairly standardized (matching POs, verifying data).	Could transition to broader finance admin or bookkeeping with moderate training.
8. Security guard	3	2	2	AI-assisted surveillance (cameras, facial recognition) can handle some monitoring.	Situational awareness and on-the-spot judgment needed.	Limited skill overlap with other roles; requires additional training for different security or admin tasks.
9. Retail sales associate	3	2	3	Self-checkout, e-commerce reduce some in-person tasks, but upselling and personal advice remain.	Some interpersonal complexity in customer interactions, but routine store tasks are simpler.	Customer service skills transfer to other sales/support roles.
10. Help desk technician	3	3	4	AI can automate basic troubleshooting, but complex queries need human analysis.	Requires technical knowledge plus problem-solving; moderately complex.	IT knowledge is transferable to various tech support or junior sysadmin roles.
11. Warehouse worker	4	1	2	Automated robots and AI-driven picking systems can do many of these tasks.	Repetitive manual tasks, low variety.	Physical labor skills have limited direct overlap; forklift or basic machine operation possible with some training.
12. Paralegal	3	3	3	Document review and basic legal research can be automated by AI.	Requires legal knowledge and case analysis,	Could transition to legal assistant or compliance roles with some upskilling.

					moderate complexity.	
13. Graphic designer	2	4	4	Generative AI tools can create drafts, but human creativity and brand consistency remain key.	Creative, visual problem-solving with high variety.	Can shift to art direction, UI/UX design, or marketing with moderate training.
14. Marketing specialist	3	4	4	AI can handle analytics, targeted ads, basic content generation, but strategic campaigns need humans.	Requires creativity, market understanding, campaign design.	Skills (branding, strategy) can be used in PR, communications, product management.
15. Medical coder	4	2	3	Automated coding software can handle standard diagnoses/procedures.	Fairly rule-based, though knowledge of medical terminology is needed.	Could move into broader billing or healthcare admin roles with some additional training.
16. Nurse	2	5	4	AI can assist with diagnostics and data entry, but direct patient care is still heavily human.	Complex clinical judgment, empathy, high adaptability.	Nursing skills transfer to many healthcare roles (case management, advanced practice) with further education.
17. Radiologist	3	5	3	AI image analysis can flag anomalies, but human oversight/interpretation remain essential.	Requires deep medical knowledge, interpretive skill, and patient context.	Can pivot to different medical specialties or research with moderate effort.
18. Software developer	2	5	4	AI can generate code snippets and handle routine tasks, but design/architecture remain human-driven.	Problem-solving, architecture, integration, creative solutions.	Technical background allows transitions to product management, DevOps, or data science with upskilling.

19. User interface designer	2	4	4	AI can propose design drafts, but user empathy, iterative testing, and creativity are vital.	High complexity in user research and design iteration.	Skills apply to product design, marketing, or user research with moderate bridging.
20. Financial analyst	3	4	4	AI-driven analytics can handle large data sets, but insight, forecasting, and strategy need human input.	Analytical complexity, scenario planning, and interpretation.	Can move to investment analysis, corporate strategy, or consulting with additional specialization.
21. HR Manager	2	4	4	AI may automate recruitment screening or basic HR tasks, but strategic HR planning remains human.	Complex interplay of people management, conflict resolution, and legal compliance.	People-management skills apply to various leadership or consulting roles.
22. Project Manager	2	4	4	Scheduling and resource allocation can be assisted by AI, but leadership and stakeholder management are human-led.	Coordinating teams, risk management, communication.	Skills in coordination and leadership transfer well to operations or product management roles.
23. Business analyst	3	4	4	AI can handle data crunching, but stakeholder interviews, requirement gathering, and solution design need humans.	Bridging tech and business, problem-solving.	Analytical and communication skills suit many consulting or strategic roles.
24. Accountant	3	3	3	AI handles bookkeeping, automated tax filing, but complex audits and advisory need accountants.	Mix of routine tasks (ledgers) and interpretive tasks (compliance, analysis).	Financial knowledge can shift to auditing, financial planning, or consulting with some upskilling.

25. Pharmacist	2	4	3	AI can check drug interactions, but patient counseling and oversight remain human.	Complex medical knowledge and communicat ion with patients.	Could move into research, clinical management, or pharma sales with moderate training.
26. Civil engineer	2	5	3	AI aids design calculations, but site assessment, creative solutions, and regulatory compliance need humans.	Designing structures, ensuring safety and standards.	Could pivot to project management, consultancy, or specialized engineering fields.
27. Airline pilot	2	5	2	Autopilot systems exist, but final judgment and situational awareness are critical for safety.	Real-time decision-making under stress, large safety responsibilit ies.	Limited direct redeployment to other roles; some synergy with training or operations management.
28. Journalist	3	4	4	AI can produce basic articles (sports, weather), but investigative reporting needs human insight.	Requires critical thinking, interviewing , editorial judgment.	Communication skills apply to PR, communications, marketing, or editorial roles.
29. High school teacher	2	5	4	AI can provide automated grading or tutoring, but in-classroom facilitation and mentoring need humans.	High complexity: lesson planning, adapting to student needs, emotional support.	Pedagogical and communication skills transfer to training, educational consulting, or admin.
30. Corporate lawyer	3	5	3	AI can review contracts and legal precedents, but negotiation, court strategy, and complex counsel remain human.	Highly complex domain knowledge, analysis, client counseling.	Could move to policy advising, or executive roles with moderate additional training.