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Examining the role of AI ethics in establishing Human-AI Workplace Coexistence in a selected Telecommunications Organisation in South Africa

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Examining the role of AI ethics in establishing Human-AI Workplace Coexistence in a selected Telecommunications Organisation in South Africa

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C2 General

ABSTRACT

Artificial Intelligence technologies reinvent how we live, work, and organise our daily lives and social interactions. It brings about operational efficiencies, customer service enhancements, and organisational innovations for organisations, redefining the future landscape that will open new dimensions beyond distance, distortion, and space. Despite these benefits, using AI raises enormous concerns for telecommunication organisations beyond data protection and security vulnerabilities, including introducing ethical dilemmas due to the technology's accountability, transparency, algorithmic bias, explainability issues, and the potentially dire ramifications for employment.

These issues inherent in AI technology and its concerns make it necessary to explore the ethical considerations and the role of AI ethics in establishing a harmonious human-AI workplace coexistence in the telecommunications workplace.

A qualitative methodology was undertaken with purposively selected participants based on their telecommunications industry experience and exposure to AI technologies in the organisation, which allowed participants to be interviewed to gain insights into their perspectives.

The research findings show that employees have real job insecurities for their future and their technological readiness to work alongside this technology. Key themes highlighted ethical AI practices, with participants advocating for transparency and accountability. Trust in the organisation and trust in AI technology, with proactive engagement with employees and stakeholders, are pivotal to mitigating their concerns and creating a conducive environment for successful integration. Furthermore, upskilling is vital for establishing trust in AI.

In conclusion, the consensus is that although ethical guidelines are essential, more than ethics alone may be required to establish human-AI workplace coexistence. Instead, the organisation should cultivate an organisational culture

that supports ethical AI practices with a robust governance framework to ensure adherence to ethical guidelines is followed and responsible use of AI. Furthermore, leaders must ensure openness and transparency about their intentions to adopt AI, foster trust in the organisation that AI strategies are not designed to replace workers and develop the necessary technological competencies through targeted skill development to build trust in the technology. This will allow the organisation to be successful in their AI adoption journey and establish collaborative intelligence for harmonious human-AI workplace coexistence.

KEYWORDS

Artificial Intelligence, Worker, Workplace, Coexistence, Ethics, Trust, Collaborative Intelligence, Skills

DECLARATION

I, Elmarie Muir, declare this is this research report is my own work except where it is indicated in the references and acknowledgements. This research report is submitted in the partial fulfilment of the requirements for the degree Master of Management in the field of Digital Business at the University of the Witwatersrand, Johannesburg. This research report has not been submitted before for any degree or examination in this or any other university.

Name: Elmarie Muir Signature: 

Signed at: Fourways, Johannesburg

On the 28th day of February 2024

DEDICATION

I dedicate this work to my two sons Brandon and Jarryd and my best friend Beverley who has always been the pillars of my motivation and strength and their encouragement has led me to embark on this journey to complete a master's degree. Lastly, thank you to my colleagues for their enduring support and understanding throughout this journey.

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A heartfelt thanks goes out to all the colleagues who took the time from their busy schedules to participate in this study. Their contributions are integral to the completion of this work.

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LIST OF ACRONYMS

4IR Fourth Industrial Revolution

5G Fifth Generation

AI Artificial Intelligence

BD Big Data

BI Business Intelligence

DL Deep Learning

EC European Commission

GDPR General Data Protection Regulation

HRM Human Resource Management

IoT Internet of Things

IPA Intelligent Process Automation

ML Machine Learning

NLP Natural Language Processing

POPI Protection of Personal Information

RAIA Robotics, Artificial Intelligence and Automation

R&D Research and Development

RL Reinforcement Learning

RPA Robotic Process Automation

SA South Africa

SL Supervised Learning

STARA Smart technology, Artificial Intelligence, Robotics and Algorithms

STT – Socio-Technical Theory

UL Unsupervised Learning

WEF World Economic Forum

CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

In the face of economic challenges characterised by rising inflation and interest rates, escalating commodity prices, increasing government debt, and global conflicts that have exacerbated supply chain constraints, organisations increasingly use technology to enable worker augmentation, optimise operations, and automate processes as a hedge against these challenges ensuring future sustainability (Jyoti et al., 2022).

Artificial Intelligence (AI) is seen as a ground-breaking and emergent technology that drives productivity, fosters cost-efficiency, enables heightened innovation and grants organisations a competitive edge. Nonetheless, it is crucial to recognise their influence on employees since the effective incorporation and integration of AI technologies greatly depend on the notion of "collaborative intelligence". This notion, delineated by several scholars (Chowdhury et al., 2022; Wilson & Daugherty, 2018), underscores the symbiotic relationship between human and AI intelligence.

According to the recent International Data Corporation (IDC) industry reports, global spending on AI across software, hardware, and services for AI-centric systems has a strong upward trend. This report indicates a substantial growth rate of 26.9% from the previous year, and the projected expenditure is expected to reach $154 billion by 2023. This ongoing integration of AI into diverse product offerings is anticipated to drive a compound annual growth rate (CAGR) of 27.0% between 2022 and 2026. Analysts predict that by 2026, spending on AI-centric systems will surpass the $300 billion mark (Shirer, 2023), while scholars widely acknowledge the prospective integration of AI into the future of work (Huang et al., 2019; Wilson & Daugherty, 2019), as discussed by Makarius et al. (2020).

This rapid advancement of AI technologies offers substantial opportunities for efficiency, innovation, and growth revolutionising various industries, including telecommunications. However, the unprecedented pace at which AI technologies are changing the world has introduced challenges to society, businesses, business models, types of jobs, and the creation of new jobs. Significant concerns have been raised about the societal impact of automation and its potential to displace human workers as organisations increasingly embrace automation to streamline operations and to remain competitive (Gulley, 2023; Willcocks, 2020).

Willcocks (2020) refers to this as a "Robo-Apocalypse" as it could disrupt physical and cognitive-based occupations across industries, regions, and organisational levels, affecting society and the workplace. Automated technology displacing workers and causing societal instability (Bhattacharyya & Nair, 2019; Gulley, 2023) is a primary issue for workers (Braganza et al., 2021; Rampersad, 2020). The discussions surrounding generating and eliminating employment opportunities have notable implications for developing economies. South Africa's high unemployment rates, particularly among the youth, bring concerns about job displacement due to AI replacing low-skilled jobs and widening income equality (Schoeman et al., 2021). It is particularly relevant considering the unemployment statistics where the age group (15 to 24 years) is sitting at 63.9%, and the age group (25 – 34 years) at 42.1%, as compared to the official national rate of 34.5% (StatsSA, 2023).

This research examines AI ethics' role in establishing human-AI workplace coexistence in a selected telecommunication organisation in South Africa. In doing so, it will argue that ethical considerations are critical in ensuring that integrating AI technologies into the workplace does not undermine collaborative Intelligence. Additionally, this paper will explore various strategies for fostering a harmonious human-AI coexistence, which includes robust ethical guidelines, trust, adequate training, and transparent communication.

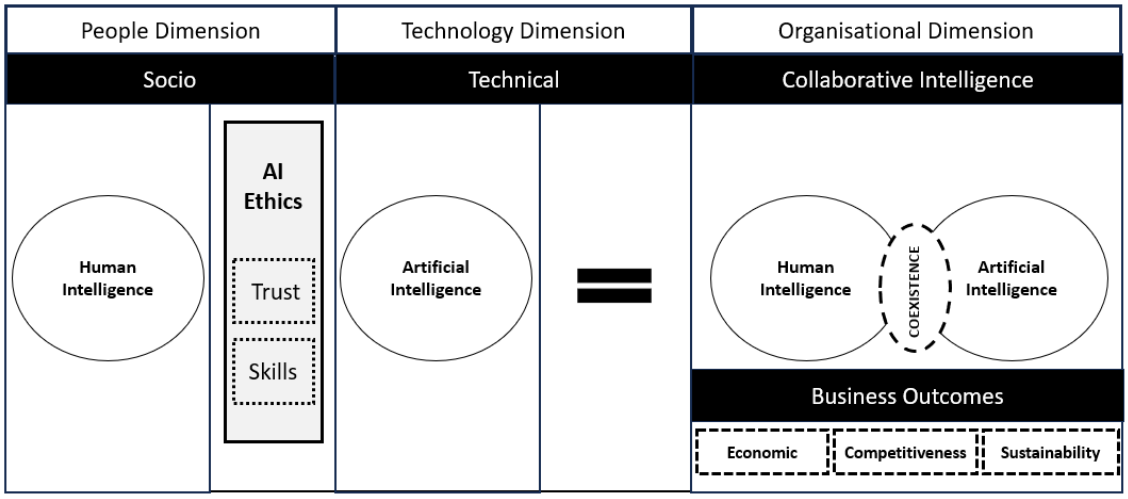
The primary focus of this investigation will centre on employees within a specific organisation actively interfacing with AI systems. These individuals will serve as

the primary unit of analysis, enabling the exploration of their perceptions regarding the requisites for establishing harmonious human-AI workplace coexistence.

The study delineates three thematic areas:

1. Using AI augmentation technologies assuages job insecurity and builds trust to foster successful human-AI workplace coexistence.
2. The perceived impact of AI ethics and responsible practices on building trust in AI technologies.
3. The influence of upskilling or cross-skilling in AI technologies on building trust in AI.

The main goal of this study is to meaningfully contribute to future research agendas by underscoring the significance of ethics and responsible AI practices in cultivating collaborative intelligence in workplace settings. It stresses the critical role of trust in AI and the role of skill development in AI to establish trust, which are essential components for fostering this collaboration. Furthermore, the study suggests that effective AI adoption strategies should prioritise the workplace coexistence of humans and AI as a critical success factor for implementation.



Source: Author's construction

Figure 1: Objective map of this research study

1.2 Background of the study

The integration of AI technology aims to enhance innovation, productivity, customer service efficiency, and competitive advantage for telecommunications organisations. It serves as a primary catalyst, especially for organisations that adopt a digital culture and prioritise data-centric approaches (Ransbotham et al., 2017) with AI-based technologies such as machine learning, the Internet of Things (IoT), cloud computing, data science, robotics, and blockchain changing how people live and work in both their personal and professional domains (Soni et al., 2019).

Legacy technologies pose a significant challenge for companies navigating the global AI revolution. As organisations increasingly adopt and integrate AI into their business models, corporate structures, business strategies, and workforces, they might need more time to prepare for this technological revolution.

Prioritising ethical considerations becomes paramount in the development and implementation of these technologies. Ethics and responsible AI practices have become critical considerations for employees to trust AI and raise the question of whether the level of trust will increase with having robust ethical frameworks in place, particularly given the unique challenges introduced by AI, "such as anthropomorphic features, natural language processing, affective computing, and conversational abilities" (Choung et al., 2023a, p. 733), aside from some of the AI ethics constructs of bias, transparency, and explainability.

A prime demonstration of human and AI collaboration is the November 2022 launch of ChatGPT from OpenAI. According to Aljanabi (2023), ChatGPT, unlike previous automation technologies, can generate text or visual outputs based on extensive training data. This launch introduced the world to a large language model that can produce coherent, relevant, somewhat interesting and exciting responses to human prompts, enabling humans to engage fully with conversational AI.

Queries directed to OpenAI's ChatGPT regarding factors influencing human-AI coexistence unveiled the following insights.

Table 1: ChatGPT factors for coexistence with AI

	Questions (a)	What are the key factors that would impact human and AI coexistence?	Questions (b)	What are the key factors that would impact worker and workplace Artificial Intelligence (AI) coexistence?
1.	**Ethics and Governance**	There needs to be ethical guidelines and governance models to ensure that AI is developed and deployed responsibly	**Ethical considerations**	AI raises ethical concerns around issues such as bias, privacy, and security. These concerns need to be addressed to ensure that AI is developed and deployed in a responsible and ethical manner
2.	**Trust**	Humans need to understand how AI works, its limitations, and how it can be held accountable for its actions	**Task augmentation**	Instead of job displacement, AI can be used to augment workers' capabilities by automating routine tasks and allowing them to focus on more complex tasks that require human skills
3.	**Collaboration**	Humans and AI need to work together to achieve the best outcomes by developing AI systems that can understand human behaviour and intentions	**Collaboration**	AI and workers need to work together in a collaborative manner to achieve the best outcomes. This involves developing AI systems that can understand human behaviour and intentions, as well as workers learning to work with AI and incorporating it into their workflows
4.	**Adaptability**	Humans need to be adaptable to new ideas, technologies, and ways of working with AI	**Job displacement**	AI can automate many routine tasks, which may lead to job displacement. Workers need to be reskilled and upskilled to stay relevant in the changing job market
5.	**Education and Training**	Humans need to be educated and trained in the use of AI systems and the ethical frameworks that underpin their use	**Cultural change**	The adoption of AI can lead to cultural change in the workplace. Workers need to be prepared for this change and be open to new ways of working
6.	**Privacy and Security**	Personal data needs to be be protected and AI systems must be secure and resilient against cyber-attacks	**Transparency and accountability**	Workers need to understand how AI systems work and how they are making decisions to ensure transparency and accountability

Source: Extracted from Open AI's ChatGPT AI language model, personal communication, May 2023

Queries directed to Google's BARD regarding factors influencing human-AI coexistence unveiled the following insights.

Table 2: Google BARD factors for coexistence with AI

Factors	Google's BARD responses
Worker trust in AI	Workers need to trust that AI will not replace them or take away their jobs. This means that AI systems must be transparent and accountable, and workers must be able to understand how AI is being used in their workplace.
The right skills for the workforce	As AI becomes more prevalent in the workplace, workers will need to be upskilled to work alongside AI systems. This means that workers will need to have the technical skills to use AI systems, as well as the soft skills to collaborate with AI systems effectively.
The right organisational culture	An organisation's culture can either facilitate or hinder the coexistence of workers and AI. An organisation that is open to change and innovation will be more likely to successfully integrate AI into its workforce.
The right leadership	Leaders play a key role in shaping the way that AI is used in the workplace. Leaders need to be able to articulate the benefits of AI to workers, and they need to create a workplace where workers feel comfortable working alongside AI systems.
The type of AI being used	Some types of AI, such as chatbots, are more likely to be perceived as a threat to workers than other types of AI, such as AI-powered tools that help workers with their tasks.
The way that AI is implemented	If AI is implemented in a way that is not transparent or accountable, it is more likely to lead to distrust and resistance from workers.
The level of worker involvement in the design and implementation of AI	Workers who are involved in the design and implementation of AI are more likely to be supportive of AI and to see the benefits of working alongside AI systems.
Overall	The key factors that will impact the coexistence of workers and AI in the workplace are **trust, skills, culture, leadership,** and the type and implementation of AI. By addressing these factors, organisations can create a workplace where workers and AI can coexist and thrive

Source: Extracted from Google's BARD AI language model, personal communication, May 2023

As much as the introduction of large language models, like ChatGPT and BARD, has excited people with the prospect of new opportunities it will create, there are also real fears that it might further eliminate jobs in customer service and make changes to existing job roles. It has also raised significant concerns about security, data privacy, and potential misuse. Aljanabi (2023) advocates that prioritising ethical considerations while developing and implementing these technologies is imperative.

Modern automated systems and machines have made significant advancements, necessitating substantial human-machine interaction for effective utilisation by the workforce (Makarius et al., 2020). Combining modern automated systems and machines with meaningful human-machine interaction offers several benefits. It allows for the utilisation of advanced technology while leveraging human cognitive abilities where tasks can be allocated based on the strengths of each entity, with robots handling repetitive and physically demanding tasks and humans focusing on critical thinking and creativity (Wilson & Daugherty, 2018). There are ongoing discussions about how the continued development of AI, especially considering the progress made in machine language, will affect the work of employees (Herrmann & Pfeiffer, 2022), citing studies(Brödner, 2018; Brynjolfsson & Mitchell, 2017; Webb, 2019).

Furthermore, AI can be entirely disruptive to industries and businesses, as seen in Amazon, Uber, Tesla, Google, Alibaba, and UPS, when used to create innovative new business models and strengthen their competitive advantage (Lee et al., 2019). As AI is poised to unleash the next surge of digital disruption and provide organisations with a competitive advantage, the value of AI is not in its models but in the ability to leverage them (Banitaan et al., 2023). By employing algorithms that acknowledge nearly everything is defined by data and that connected organisations and communities generate vast amounts of data, AI and machine language empower businesses, especially telecommunications, to scale this data efficiently for business and customer insights.

This collaboration leads to increased productivity, efficiency, and job satisfaction, with Holford (2019) proposing that while algorithmic approaches reduce worker involvement and interpretation in workplaces, they are also about enhancing performance, decreasing human error, increasing speed, and mitigating and compensating for the biased heuristics in human cognition This view is extended that AI overcomes many of the human challenges that make humans slow and temperamental (Armstrong & Lee, 2021; Herrmann & Pfeiffer, 2022).

According to extensive research conducted by Harvard involving a large sample of 1,500 companies, researchers observed that businesses relying solely on AI for worker replacement may experience limited and temporary boosts in productivity. On the other hand, organisations prioritising the collaborative integration of humans and machines tend to achieve superior long-term performance gains (Wilson & Daugherty, 2018).

It becomes important to consider some emerging trends highlighted in the industry.

Table 3: Expected trends with the most potential impact on AI and automation initiatives

By Year	Predictions
2023	35% of IT organisations will invest in AI skills to support end-users adopting AI and automation solutions while running automated IT operations.
2024	Most organisations will utilise codeless development tools for at least 30 percent of their AI and automation initiatives, which will aid in accelerating digital transformation (DX) and democratising AI.
2024	40% of the G2000 will implement tools to quantify, forecast and optimise the cost benefit of their AI life cycle in response to sustainability and economic uncertainty concerns,
2025	Organisations will have more risk and governance focus until 2025 as AI models becoming more strategic, then AI risks will be incorporated into organisations risk programs by 60 % of G2000 CFOs.
2025	50% of organisations will adopt intelligent business execution strategies, turbocharging all phases of the automation life cycle with AI to accelerate automation development and maximise value.
2026	75% of large organizations will rely on AI-infused processes to improve asset efficiency, consolidate supply chains, and enhance product quality across diverse and distributed environments.
2026	AI-driven features will be embedded across various business technology categories by 2026 which will be used by 60% of organisations to drive better outcomes without relying on technical AI talent.
2026	Massive (>1 trillion parameter) foundation models (for natural language processing [NLP], AI-generated images, etc.) will become standard industry utilities provided only by the largest vendors.
2026	40% of AI models will incorporate multiple modalities of data to enhance learning effectiveness and address single-modality AI solutions' current deficiencies in everyday knowledge.
2027	25% of G2000 companies will have AI-assembled applications that is driven by the componentisation of applications and by advancements in AI/machine learning (ML) disrupting traditional developer roles.

Source: Extracted from (Jyoti et al., 2022)

The emerging trends in Table 3 are worrying, as the premise underlying these technological interventions is not to replace human resources but rather to augment human intelligence and knowledge (Jarrahi, 2018), where workers and AI can have a symbiotic relationship through mutual beneficiation (Malik et al., 2021). These findings sit in contrast to what some other researchers are finding. Khogali and Mekid (2023) argue that some economists say that fears about AI replacing employees are exaggerated and that AI will raise productivity and labour demand across the economy, possibly even in organisations that automate work. Willcocks (2020) also challenges the prevalent assumptions surrounding automation and its impact on human employment, suggesting that "job loss" is exaggerated and that skill disruption is probable. However, the extent of its impact remains uncertain.

Consequently, while the use of AI can create new higher-skilled job opportunities, such as ML engineers, robotics engineers, and data scientists, it may also result in a reduction in demand for less-skilled positions, which will disintermediate numerous jobs in emerging economies, particularly those involving repetitive physical control, motion, and information processing (Chuang, 2021).

Emphasising significant ethical factors like fairness, transparency, accountability, privacy, security, and compliance with ethical norms, such as societal and environmental welfare, has become crucial. Considering the current trends and statistical data influencing job availability, trust might evolve as a notable apprehension among employees, leading to anxiety about job security and stability (Braganza et al., 2021; Rampersad, 2020).

Ethical principles encapsulating responsible AI practices must be integral to the organisational fabric to foster trust in AI. Additionally, employees with the requisite technological competencies will trust the technology. Organisations need to be there for their employees and help them adapt to an AI-driven digital future (Wang et al., 2017). Employees must understand the value AI adds, with its potential to assist with mundane, repetitive, and inconsequential tasks, thereby improving worker performance and bolstering overall business productivity (Poba-Nzaou et al., 2021).

When employees are doubtful about their job security, the potential restructuring of their job roles, lack of technological proficiencies or lack of trust, it will bring about difficulties in creating a collaborative working environment. Hence, it is essential to evaluate the role of ethical AI, trust, and AI proficiency as critical components of collaborative intelligence, which will facilitate work coexistence.

1.3 Research problem

Organisations often prioritise AI's transformative potential, cost savings, and increased productivity, investing significant resources in its implementation. However, according to (Wilson & Daugherty, 2018), the need for effective coexistence between workers and AI should be more noticed. While AI drives positive innovation, it also displaces work through automation (Lee et al., 2019), which could result in negative consequences for workers who are unable to secure new work due to their obsolete skills offered to the market. Therefore, even though AI's superior analytics capabilities can bring benefits, AI technologies do not negate concerns about job insecurity, technological unemployment, skill gaps, changes in employment patterns, and the impact on worker performance and trust in AI.

Prior studies have extensively recognised AI's potential advantages. However, there is limited research on the specific perceptions of employees regarding ethics, responsible and ethical AI, trust, and AI skills in the context of establishing human-AI workplace coexistence for telecommunications, an industry that is perfectly geared towards the utilisation of AI.

This study examined the role of AI ethics, encompassing responsible and ethical AI practices and organisational strategies for AI adoption, on workers' perceptions of job security, trust, and AI-specific skills development. It also explored how these factors contributed to trust in AI and aimed to establish their significance in fostering collaborative intelligence. Therefore, this investigation aims to bridge the gap in understanding how these factors contribute to the effective adoption and integration of AI technologies within South Africa's

telecommunications sector and their important role in ensuring humans stay relevant in the face of AI adoption.

When examining ethics, the study explicitly targeted the principles encompassing AI ethics and the criteria for trustworthy and responsible AI, collectively referred to under the overarching term of AI ethics to encompass all aspects.

The discussion on skills emphasised the cultivation of AI skills, as defined by BGT, encompassing competencies closely linked to AI technology and proficiency in AI-related software. These skills include artificial intelligence, machine vision, deep learning, and speech recognition (Alekseeva et al., 2021).

The study used qualitative methods to investigate the dynamics between social and technological factors in the workplace. This approach provided insights into how AI ethics, trust, and AI skills contribute to collaborative intelligence and establish human-AI workplace coexistence.

A research gap has presented itself in the telecommunications industry, as the role of AI ethics and trust in creating a collaborative human-AI workplace is understudied. Additionally, this extends to AI skills and trust in AI technology and the perceived impact thereof in establishing this workplace coexistence.

1.4 Research Objectives

The research examined how a company's use of AI could affect how its employees feel about the technology and its perceived impact on their jobs and trust in the workplace. It also explored how ethics in AI could make employees feel more optimistic about the technology. Lastly, the study examined how employees could gain more trust in AI by learning more about it or getting trained in AI.

The research objectives are:

1. To explore the influence of AI augmentation technologies in addressing job insecurity and building trust.
2. To explore how AI ethics contribute to building trust in AI technologies.
3. To explore the importance of AI skills development in fostering trust in AI technologies.

1.5 Rationale

Today's jobs are constantly changing, not just in the tasks that need accomplishing but also in the importance placed on specific competencies. On the one hand, AI has been studied extensively in the context of its benefits. However, it is necessary to study factors that could limit its integration into the workplace. At the interface of AI systems and the formation and sustainability of trust between humans and machines, ethical issues arise that need addressing.

The first objective of this qualitative research was to provide relevant industry-level insights into the South African telecommunication sector with the organisational and cultural context considered. The South African telecommunications industry has yet to extensively research the issues of AI ethics, trust and AI skills in achieving successful human and AI workplace coexistence, despite their importance becoming apparent.

The present research aimed to explore the perceptions and experiences of current employees working in a specific telecommunications company concerning the ethical implications of Artificial Intelligence (AI). Additionally, the study aimed to assess the significance of trust in human-AI interactions and the impact of reskilling and multi-skilling on building confidence in AI. In conclusion, it determined whether these factors are critical to enhancing the coexistence between humans and AI to create collaborative intelligence.

1.6 Delimitations of the study

Geographic Scope: The investigation covered the South African telecommunications sector only, with a selected organisation in the industry. The findings can be summarised and used for benchmarking across different industries, but their conclusions will primarily apply to the South African telecommunications industry context.

Participant Selections: The participants will be the employees, some having prior knowledge and experience in using AI applications for the telecommunication industry. The exclusion of stakeholders (i.e., customers and regulators) might influence the study findings, limiting a complete comprehension of the working patterns of AI and humans.

Qualitative Approach: The research used qualitative methodology, using semi-structured interviews for data collection and coded using Atlas.ti 24 and Microsoft Excel. However, it might need more statistical interpretation of a quantitative study.

AI Ethics, Trust, and AI Skills: The research mainly concentrated on studying the role of AI ethics and trust, AI technology trust and skills as elements that could ensure the successful coexistence of humans and AI in the workplace.

Limited Time Frame: The study was confined to a specific time frame, thus reflecting the South African telecommunication industry's status solely within that time frame. Additionally, the future of technology, regulations, or the nature of the industry may change, which could affect the relevance of the research findings over time.

The scope boundaries were set, which allowed for a coherent study design and concentration on AI ethics, trust, and AI skills as the factors shaping the human-AI workplace coexistence in the study case of a South African

telecommunications organisation. When interpreting and applying the study's findings to other situations and sectors, these limitations should be considered.

1.7 Definition of terms

Augmentation – concept for when using AI to enhance or augment human capabilities and can be seen in various fields such as Human Resource Management (HRM) as decision support tools in HR processes or banking; e.g., SEB, a Swedish bank, has implemented a virtual assistant named AIDA to engage with its customers to resolve their problems (Wilson & Daugherty, 2018).

Automation - is the replacement of tasks previously performed by humans or the replacement of human labour by machines (Acemoglu & Restrepo, 2020).

Computer vision - refers to algorithms that enable machines to analyse and interpret visual data (images and videos) with various applications, including object recognition and autonomous vehicle systems (Szeliski, 2022).

Deep learning (DL) - refers to advanced neural networks, which are focused on their use in the process of extraction of valuable information (intricate patterns and structures) from large datasets, and used in speech and image recognition tasks (Goodfellow et al., 2016).

Expert systems are AI systems that employ a knowledge base and rule set to enable users to get guidance and make critical decisions. They are implemented to mimic human domain experts' decision-making capabilities (Jackson, 1998).

Machine learning (ML) - comprises the creation of algorithms that allow machines to learn from the data without being explicitly programmed (Alpaydin, 2020).

The following are three main categories within machine learning:

Reinforcement learning (RL) is a model that is trained through trial and error, and the model adjusts its behaviour in the form of rewards or punishments based on the feedback it receives (Sutton & Barto, 2018).

Supervised learning (SL) uses labelled data to train the machines under supervision to predict a target variable. The model is trained from input-output sets, which are fed into the model, and subsequently, the model becomes capable of making predictions on new, unseen data (Alpaydin, 2020).

Unsupervised learning (UL) uses data that is not labelled and does not predict target variables (Alpaydin, 2020).

Natural language processing (NLP) - takes unstructured data from a data source and makes chatbots answer the user request as computers can interpret human language. These algorithms, such as language translation and sentiment analysis, are implemented in various applications (Jurafsky & Martin, 2022).

Robotics - robots are trained to interact with their surrounding environment consistently and adaptively. This includes enabling robots to manipulate objects within interactive settings and establishing efficient human-robot interactions. Progress in robotics heavily depends on concurrent advancements in enhancing the reliability and versatility of computer vision and various other forms of machine perception (Stone et al., 2022).

Speech recognition is a subfield of AI involving the creation of algorithms that allow machines to recognise and interpret human speech. Numerous applications employ speech recognition algorithms, including voice assistants and dictation software (Jurafsky & Martin, 2022).

Strong AI – still hypothetical and futuristic as these systems will have human or superhuman intelligence that inspires complicated human thinking and intelligent tasks, including ethical judgements, symbolic reasoning, social situation management, and ideation (Brynjolfsson & McAfee, 2014) and thus consciousness, which infers understanding and self-awareness.

Weak AI - systems that can execute human-specific functions like visual perception, context comprehension, probabilistic reasoning, and complexity management (Russell & Norvig, 2010).

Types of AI systems:

Analytical AI - characteristics are identical to those of cognitive intelligence. These AI systems use past information to make future decisions, with the majority of AI systems employed by businesses today falling into this category; examples include fraud detection in financial services, image recognition and self-driving vehicles (Kaplan & Haenlein, 2020).

Human-inspired AI - incorporates aspects of cognitive and emotional intelligence; these systems can comprehend human emotions and factor them into their decisions. Companies can use these systems to identify emotions during consumer interactions and worker recruitment. For example, chatbot Affectiva uses advanced machine vision that identifies emotions such as happiness, anger and surprise at a human level (Kaplan & Haenlein, 2020).

Humanised AI - demonstrates characteristics of all intelligence categories comprising cognitive, emotional, and social intelligence. Presently, these systems that possess self-awareness and self-consciousness in their interactions with others cannot exist but could change in the future (Kaplan & Haenlein, 2020).

1.8 Assumptions

1. All respondents are proficient in English and understand AI's basic concepts, including its capabilities and limitations.
2. The participants will answer the questions honestly as they fully understand that the interview is anonymous.
3. The management sampling only includes management with decision-making authority in formulating their business unit strategy.
4. Some employees within the sample set may need to be made aware that AI technologies have already been deployed in their specific roles and functions.

However, they are likely to be informed about industry trends and changes, including the increasing utilisation of AI across various operational aspects. Others among the sample set might have been involved in AI implementation, either in the decision-making process regarding which AI systems to adopt or through active participation in the implementation process.

1.9 Chapter Outline

Chapter 1: Provides an overall view of the study and starts with the purpose of the study, followed by the study's background. The research problem was positioned, followed by the key research objectives of the study, and the rationale (significance), delimitations, definition of terms, and assumptions of the study were outlined.

Chapter 2: A review of the literature on the topics of AI augmentation versus automation, job insecurity, AI ethics, trust, and AI skills was presented. Based on the literature reviewed, three research propositions will be drawn up and presented at the end of each theme.

Chapter 3: The research outlined the research methodology and design, study population, sample, sampling method, data-collection instrument, and data analysis methodologies. It also described the study's limitations, the research's quality assurance, and ethical considerations.

Chapter 4: The section presented the study's findings, commencing with the participant profile regarding their utilisation of AI in telecommunications. Subsequently, the findings were organised by the research objectives outlined for the study.

Chapter 5: The findings were aligned with the research objectives and discussed accordingly.

Chapter 6: The section sets out the conclusions reached by the study concerning the research objectives presented in Chapter 1. Based on these conclusions, recommendations were formulated for industry practitioners, and suggestions were proposed for further research.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

The literature review presented in this chapter aimed to explore various dimensions of AI integration in organisational settings. This exploration focused on four key areas: organisational strategy around automation and augmentation, AI ethics, trust, and AI skills. Examining these allowed the researcher to assess their theoretical application within different contexts, leading to a deeper understanding of the research parameters. This approach ensured that the research objectives accurately reflected the identified gaps in the literature.

The research was guided by the European Commission's High Level Expert Group (2019) seven essential ethics criteria for trustworthy AI. It builds on discussions by previous researchers regarding AI adoption and integration, explicitly focusing on workplace AI. This literature review contributed to the argument for the applicability of these factors in similar research studies (EC, 2019).

By examining AI ethics, interwoven with trust and expanded to incorporate AI skills as critical factors in establishing human-AI workplace coexistence, this literature review sets the stage for developing a conceptual model grounded in the theoretical foundation of Socio-Technical Theory (STT).

Finally, the research propositions analysed in the literature review outlined a clear roadmap for the subsequent chapters.

Definition of concepts

2.1.1 Definition of AI, coexistence and human intelligence

A Stanford University professor, John McCarthy, organised the Dartmouth conference, establishing Artificial Intelligence as a discipline believing systems will develop human-level intelligence (McCarthy et al., 2006). This field of computer science aims to create intelligent machines capable of human-like tasks such as perception, reasoning, learning, and language translation (Russell & Norvig, 2010). AI systems can use symbolic principles or acquire numerical models, and through machine learning, they can modify their behaviour based on the results of their previous action. Categorising AI systems into analytical AI, human-inspired AI, and humanised AI (Kaplan & Haenlein, 2019) presents a unique perspective on these systems' diverse capabilities and functions, offering an intriguing glimpse into their range and potential. With AI surpassing many human limitations, AI technologies have enabled its application in education, marketing, healthcare, finance, and manufacturing, boosting productivity and performance (Dwivedi et al., 2021).

The lack of a universally acknowledged definition for "artificial intelligence" poses challenges in providing a comprehensive understanding of the concept (Wang, 2019; Wirtz et al., 2019). Wang (2019) refers to "intelligence" as "explored from various perspectives, through the dimensions of system structure, behaviour, capability, function, and principles" according to (Zirar et al., 2023, p. 3). Fast and Horvitz (2017) posit that this lack of a precise definition hinders studies on the sentiment and understanding of AI and incorporates a vast array of computing technologies, even within engineering-centric definitions. Despite this, this research study prefers the description used by (Kaplan & Haenlein, 2019, p. 17) that AI can be referred to as “a system’s ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation”.

Organisations must foster active collaboration between workers and AI systems to realise the successful adoption and integration of AI technologies, thereby establishing a symbiotic partnership conducive to human-AI workplace coexistence. Einola and Khoreva (2023) refers to coexistence of humans and AI in the workplace as the interaction between organisational members and AI solutions, generating beliefs, attitudes, emotions, and behavioural patterns as AI solutions are implemented and evolve. Human intelligence differs to AI as it encompasses the cognitive abilities of individuals in learning, comprehending, adapting, and applying knowledge underpinned by processes such as emotions, empathy, theory of mind, and grief (Kaplan & Haenlein, 2019; Khanam et al., 2019; Wang, 2019).

This combination of human and AI intelligence provides for a collaborative framework that enables the augmentation of workers and AI by applying collaborative intelligence, leveraging human strengths such as leadership, creativity, and social skills alongside AI's computational speed, scalability, and quantitative capabilities (Wilson & Daugherty, 2018). Ultimately, this approach serves to solidify the harmonious coexistence of humans and AI within the workplace environment.

2.1.2 Criteria for ethical AI Systems

The EC defines seven essential criteria that AI systems must satisfy to be deemed trustworthy (lawful, ethically adherent, and technically robust).

Table 4: European Commission criteria checklist for Trustworthy AI

Criteria	Description
Human agency and oversight	Artificial intelligence (AI) systems should empower humans, promoting fundamental rights and the enablement of making informed decisions. Human-in-the-loop, human-on-the-loop and human-in-command approaches can be used to implement the necessary supervision mechanisms highlighting the adaptability of intelligence systems with inadequate knowledge and resources in workplaces - something that human workers can do (Wang, 2019).
Technical Robustness and security	AI systems in addition to being accurate, dependable and reproducible must be robust and safe with a backup plan in case something goes awry. This is the only method to guarantee that unintentional harm is minimised and avoided.
Privacy and data governance	In addition to ensuring full privacy and data protection, adequate data governance mechanisms must be established, ensuring legitimate access to the data and considering the quality and integrity of the data, because the efficacy of intelligent systems is dependent on the data fed to them (Farrow, 2019). Consequentially, data consistency and quantity are crucial concerns for AI applications in the workplace and might require human intervention and intelligence to interpret or override AI system outputs (Yam et al., 2021).
Transparency	Traceability mechanisms can assist in making data, systems, and AI-based business models transparent, so AI systems and their decisions must be communicated in a manner that is tailored to the stakeholder in question. Humans must recognise that they are interacting with an AI system and be aware of its capabilities and limitations.
Diversity, non-discrimination and fairness	Unfair bias must be avoided because it can result in multiple negative outcomes, such as the marginalisation of vulnerable groups and the escalation of prejudice and discrimination. To foster diversity, AI systems should be accessible to everyone, regardless of disability and their entire life cycle should involve relevant stakeholders.
Societal and environmental well-being	AI systems should contribute to the social and environmental welfare of all humans and consider future generations and ensure sustainability. In addition, they should consider the environment (eco-friendly), which includes other living creatures, as well as their social and societal impact.
Accountability	Implementing mechanisms to ensure responsibility and accountability for AI systems and their results are necessary. In the context of mission-critical applications, auditability, which facilitates the evaluation of algorithms, data, and design processes, is vital. In addition, reasonable and accessible redress must be ensured.

Source: Extracted and adapted from (EC, 2019)

2.2 ANALYTICAL FRAMEWORK

2.2.1 Theoretical Framework

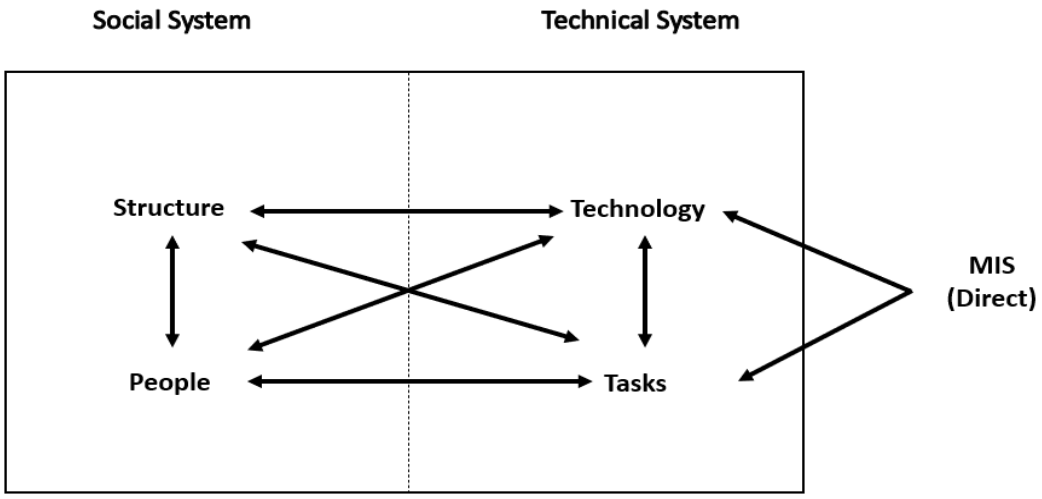


Figure 2: Socio-Technical Theory (STT)

Source: (Bostrom & Heinen, 1977)

This study aimed to develop and validate a theoretical conceptual model based on the Socio-Technical Theory, explicitly focusing on establishing workplace coexistence between humans and AI. The socio-technical approach is central to this model, emphasising the significance of considering technical and social aspects when implementing technological changes within an organisation (Bélanger et al., 2013). It emphasises the need for a proper alignment between the technical subsystem (devices, tools, and techniques) and the social subsystem (employees, knowledge, skills, attitudes, values, reward system, and authority structures) to maximise organisational performance (Yu et al., 2023). The model proposes that optimising the interdependency and harmonisation of these subsystems through the design process can lead to superior results. Renowned authorities like Albert Cherns and Enid Mumford have provided principles and methodologies to implement socio-technical approaches in organisational design (Akbari & Land, 2016).

The model has three main components:

- the social system, which includes organisational and people subsystems
- the technical system, which includes technology-related aspects and activities
- the external environmental factors that affect the work system

Høyland et al. (2019) describes organisational aspects as exterior structures and features, including work schedules, management systems, culture, training, policies, and resource availability. The people aspect considers individual characteristics and collective-level factors within entities like work teams or groups, impacting well-being through stress, fatigue, burnout, and job satisfaction. Technology and tasks involve the objects and processes used by individuals to perform work, with tasks encompassing specific actions within more extensive work processes and involving attributes such as difficulty, complexity, variety, ambiguity, and sequence. The external environment comprises broader societal, economic, ecological, and policy factors that extend beyond the organisational boundaries (Høyland et al., 2019).

This theory underscores the influence of diverse factors and components on work performance and their perceived impact on individual well-being and organisational effectiveness. The interaction of these factors within the subsystems can significantly affect business performance and lead to various organisational outcomes, including compliance with regulations, staffing or capacity difficulties, chronic employee turnover, and shortages (Høyland et al., 2019; Naikar, 2018).

2.2.2 Conceptual Framework

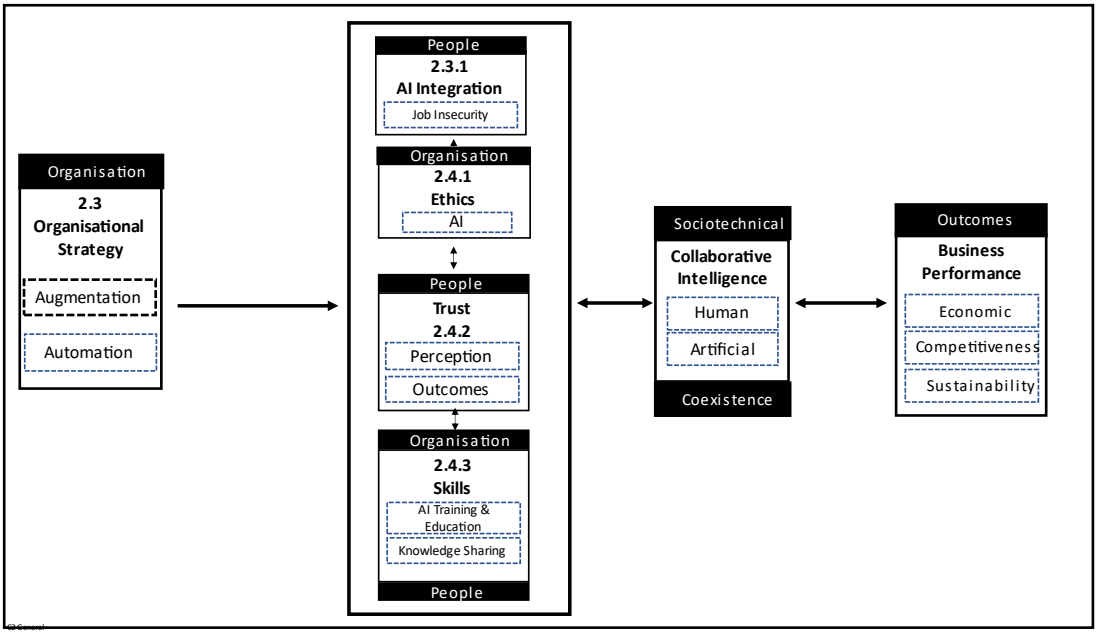


Figure 3: Conceptual Framework of this research study

Source: Author's Construction

The adoption of the socio-technical theory introduces a pertinent and all-encompassing framework, which, in its essence, explores the multifaceted roles played by AI ethics, responsible AI, and AI skills, within the landscape of trust and in shaping the harmonious coexistence between humans and AI within the workplace.

Consideration of Humanistic Principles: In its application, the socio-technical approach underscores the criticality of bolstering the quality of work life and

employee satisfaction, seeking to forge a symbiotic relationship between humans and AI that centralises human welfare, ethical factors, and trust.

Optimisation of Technical and Social Systems: The socio-technical approach advocates for the optimal integration between technical and social subsystems. Exploring the interplay of AI ethics, responsible and ethical AI, trust, and AI skills within the workplace demands an appreciation of how AI technologies interact with established social systems and their potential to bolster ethical behaviour and cultivate trust.

Recognition of Economic Objectives: While humanistic principles are essential, the socio-technical approach acknowledges the economic objectives of organisations. Demonstrating that achieving ethical and trust-based objectives can also lead to improved performance and added value for organisations helps address potential concerns and resistance from managers and employees.

Historical Relevance: The socio-technical approach is a well-established theory that has influenced various fields, including information systems. Given that AI technologies significantly impact organisational dynamics and the workplace, drawing on this theory can provide valuable insights and guidance for researching human-AI workplace coexistence in the workplace.

It encapsulates a comprehensive view that accounts for both technical and social dimensions, underscores humanistic principles, and aligns with economic goals. Hence this framework is suitable for delving into the intricate interplay and interdependencies between humans and AI within organisational contexts.

Literature Review

Adopting AI fosters innovation, transformation, and productivity, leading to benefits such as GDP growth and prosperity, addressing workforce challenges, and tackling complex problems like climate change. Businesses can benefit from AI through improved performance, outcomes, quality, and speed, surpassing

human limitations, addressing new problems, creating opportunities, and driving innovation.AI can vastly impact various sectors of the global economy and is viewed as highly promising for enhancing firms' value-creation process (Davenport & Ronanki, 2018).

The deployment of AI technologies brings forth various societal and economic challenges that need addressing. These challenges encompass job displacement, wage considerations, skill demands, worker acceptance, transparency concerns, competition issues, biases, safety implications, cybersecurity risks, and ethical considerations (Manyika et al., 2017).

Anderson et al. (2018), reporting for the Pew Research Center, highlight five of the most frequently mentioned concerns:

1. AI use reduces individuals' control over their lives.
2. Surveillance and data systems for efficiency, profit, and control pose risks.
3. Potential social upheaval through human job loss or displacement through AI could widen economic and digital divides.
4. AI leads to diminished individuals' cognitive, social, and survival skills due to their dependency on AI.
5. Exposing citizens to out-of-control cybercrime and cyberwarfare and organisations may be threatened by weaponised information. A few are also concerned about the extinction of all.

Today's society currently holds two primary worldviews: it sees AI as the hope and salvation of humanity, or it could see AI as a cause of human threat or vulnerability (Khogali & Mekid, 2023). AI and its companion technologies have generated new societal, organisational, and individual opportunities and risks (Farrow, 2019). With the risks previously identified with AI technologies, replacing workers has become more prevalent. Researchers are expressing concerns that Robotics, Artificial Intelligence, and Automation (RAIA) could reach a level of advancement where they not only replace human workers but also become so complex that they will outstrip human intelligence (Fast & Horvitz, 2017).

2.3 Organisational Strategy: Automation versus Augmentation

In fostering effective human-AI workplace coexistence, assessing the degree of trust engendered by AI technologies designed to augment human workers is essential. Central to this endeavour is research inquiries to scrutinise organisational strategies about the dichotomy between automation and augmentation and its impact on job insecurity. Such investigations are pivotal for comprehensively understanding the dynamics in modern workplaces and devising informed approaches to optimise the integration of AI technologies alongside human labour.

In the literature, automation emerges as a phenomenon with deep historical roots, as evidenced by seminal works (Acemoglu & Restrepo, 2020; Raj & Seamans, 2019) highlighting historical instances such as the advent of the steam engine and the mechanisation of agriculture, both of which introduced the automation of manual tasks. Concerns surrounding the escalating adoption of robotics and AI technologies underscore a pervasive worry regarding the amplification of automation and its implications for the workforce and organisational structures. Notably, Robotics Process Automation (RPA) stands out as a contemporary manifestation of automation, targeting the streamlining of repetitive tasks and consequent reduction in human involvement, a trend corroborated by (Malik et al., 2021; Raj & Seamans, 2019). This shift towards automation is not devoid of repercussions, as evidenced by the emergence of technostress—a term introduced by (Brod, 1984) encompassing various stressors emanating from technology integration. Tarafdar et al. (2007) identified five factors contributing to technostress, namely techno-invasion, techno overload, techno-complexity, techno-uncertainty, and techno-insecurity, and purporting to exert detrimental effects on worker performance, as suggested by (Malik et al., 2021; Raj & Seamans, 2019). Furthermore, the literature posits that technostress caused by automation may precipitate diminished job satisfaction, decreased commitment, and reduced worker productivity.

In the contemporary business landscape, a notable trend is the swift acceleration of efforts by numerous enterprises to digitise their operational workflows and introduce novel technologies. Accompanying this trend is a noticeable anticipation among employers regarding automating specific roles within their organisational frameworks. While it is evident that such transformations will undoubtedly impact organisations, an essential inquiry arises: Are these entities effectively reaping the associated benefits if there is not an established collaborative intelligence?

Makarius et al. (2020) state that integrating AI into workforce dynamics, business strategies, and operational processes presents significant organisational challenges. These challenges manifest mainly in achieving a satisfactory return on investment (ROI) from AI implementation endeavours. Corroborating this sentiment are findings from a study conducted by Deloitte (2017), which examined 152 AI projects involving senior management, revealing that 47% of respondents encountered difficulties realising the anticipated benefits of AI deployment.

Furthermore, the acceptance of technology by workers emerges as a pivotal determinant during periods of digital transformation, exerting a profound influence on overall productivity outcomes, says Malik et al. (2021), highlighting the complex interplay between technological adoption, organisational dynamics, and workforce engagement in shaping the efficacy of digitalisation efforts within current organisations.

The findings of Brougham and Haar (2018) shed light on a notable correlation between concerns surrounding automation, job displacement, or the perceived encroachment of AI into job roles and adverse outcomes among workers, as elucidated by Huang et al. (2019). Observing such concerns precipitates heightened turnover intentions, cynicism, and depression among workers, as evidenced by the research studies (Brougham & Haar, 2018; Presbitero & Teng-Calleja, 2022), consequently diminishing overall job satisfaction levels.

These observations suggest a prevalent negative perception among workers towards integrating AI technologies despite the intended goal of enhancing work processes and operational efficiency. Such negative sentiments may prompt individuals to contemplate alternative career trajectories, as highlighted by Brougham and Haar (2020), who further establish a link between technologically induced job insecurity and detrimental worker outcomes, such as heightened cynicism and depression.

Furthermore, using AI for automation without considering ethical implications poses a significant risk of eroding trust between workers and AI systems. Therefore, it underscores organisations' need to conscientiously address ethical concerns surrounding AI integration within the workplace, safeguarding and nurturing the trust dynamics between human workers and AI technologies.

2.3.1 Job Insecurity

Brougham and Haar (2020) draw upon Huang et al. (2010) definition of job insecurity as "the degree to which workers perceive their jobs, or important features of their jobs, to be threatened and to which they perceive themselves to be powerless to do anything about it."

Previous research underscores the imperative of addressing critical factors that influence workers to facilitate harmonious coexistence between humans and AI in the workplace (Makarius et al., 2020; Zirar et al., 2023), given that workers are the key stakeholders who will need to work and collaborate alongside these technologies, their concerns and needs necessitate careful consideration.

Nam (2019) referenced various studies (Davy et al., 1997; Greenhalgh & Rosenblatt, 1984; Heaney et al., 1994) to highlight the negative impact of job insecurity on job satisfaction (Davy et al., 1997; Heaney et al., 1994) and its correlation with resistance to change (Greenhalgh & Rosenblatt, 1984) and underscored the intricate relationship between job insecurity, worker satisfaction, and receptiveness to organisational changes.

While existing literature emphasises job insecurity as a pivotal factor influencing the adoption of AI technologies—a notion that intriguingly aligns with the concept of 'job displacement' as highlighted in the previous response—a nuanced evaluation is warranted to assess the perceived impact within specific industries, such as telecommunications. Nam (2019) suggests this assessment should be grounded in individuals' perceptions and interpretations of their immediate work environments. This indicates that industry-specific considerations are necessary when addressing AI adoption and job security concerns.

Current statistics and emerging trends underscore the tangible threat of job losses resulting from AI automation across all industries, with varying degrees of impact observed. As AI technologies driving automation evolve, workers' apprehension and anxiety regarding job insecurity will escalate. The fear surrounding automation extends beyond concerns about its potential adverse consequences, prompting a need to delve into the role of ethical considerations, AI ethics, trust, and the acquisition of AI-related skills in mitigating job insecurity.

Whether ethical considerations, AI ethics, trust, and the cultivation of AI skills address job insecurity concerns and instil confidence in the intentions, actions, and outcomes associated with automation becomes paramount. Questions arise regarding the potential of workers' trust in organisational decision-making processes, transparency, and acknowledgement of their skills and contributions to alleviate job insecurity fears and foster a positive perception of automation. Furthermore, the inquiry extends to whether establishing and sustaining trust within the workplace is pivotal for organisations to effectively navigate the challenges posed by automation, ensuring that workers feel secure amidst ongoing technological advancements. These considerations underscore the multifaceted nature of addressing job insecurity in the mix of automation and augmentation technologies adopted and emphasise the importance of fostering trust and ethical practices within organisational frameworks to promote positive perceptions and mitigate anxieties surrounding AI-driven automation.

Research has underscored the practical limitations of automation, advocating for a human-in-the-loop approach that prioritises augmenting human capabilities rather than outright replacement (Katz, 2017). In envisaging an integrated workforce comprising humans and robots, the prevailing expectation is for individuals to concentrate on higher-value tasks such as design and integration, with AI serving to enhance human capacity, skills, and competencies, thereby fostering efficient workplace collaboration (Dwivedi et al., 2021). However, a pertinent question arises as to whether this paradigm shift alone would suffice to cultivate collaborative intelligence and establish coexistence for humans within an AI-driven workplace, particularly in instances where workers' technological skill competencies are inadequate.

Advocating for responsible AI adoption is essential for cultivating workplace coexistence, thereby underscoring businesses' social responsibility in effectively managing their workforce (Li et al., 2019). Consequently, adherence to AI ethics and ethical considerations assumes paramount importance. At the same time, the challenges associated with AI integration within an organisation may be contingent upon various worker-related factors, such as the perceived threat of job loss and resistance to adoption or issues about technology migration. (Ambati et al., 2020). Addressing workers' perspectives and assuaging their fears of job displacement is crucial to fostering transparency regarding the technology's objectives and implications. It highlights the significance of robust communication strategy that encapsulates transparent communication and proactive engagement with workers to ensure a smooth transition and promote acceptance of AI technologies within the organisational ecosystem.

Radhakrishnan and Chattopadhyay (2020) have identified many factors influencing the adoption and integration of AI, spanning both individual and organisational levels. At the individual level, considerations such as trust, cost, social influence, and prior experience with AI tools emerge as pivotal determinants. Conversely, at the organisational level, factors including organisational strategy, innovativeness, top management support (Yu et al., 2023), digital maturity, and compatibility play significant roles. Additional factors

such as regulatory approvals, data anonymisation, and precision contribute to shaping the landscape of AI integration within a specific sector like telecommunications.

The prospect of automation introduces complexities beyond mere technological advancements, potentially exacerbating unemployment rates and disrupting labour markets, thereby engendering social inequality. Klaus Schwab, founder and chairperson of the World Economic Forum (WEF), has voiced concerns regarding organisations' capacity to adapt to emerging technologies, highlighting the disparities between replaced jobs and those that endure or emerge anew, thus accentuating workforce inequalities (Schwab, 2017). However, it is imperative to recognise the necessity of restructuring economic and political systems to enhance human capacities and capabilities. Such efforts are crucial for fostering collaboration between humans and AI, thereby mitigating tendencies that could undermine human relevance in the wake of AI proliferation (Anderson et al., 2018), underscoring the need for holistic approaches to AI integration that prioritise the augmentation of human capabilities and the cultivation of synergistic relationships between humans and AI technologies.

The accelerated automation of labour-intensive tasks has ignited apprehensions regarding the potential redundancy of human labour, consequently amplifying concerns surrounding traditional job displacement within the workplace (Brynjolfsson & McAfee, 2014; Frey & Osborne, 2017). The McKinsey Global Institute projections indicate a substantial restructuring of approximately 800 million jobs by 2030, driven by the widespread integration of AI technologies in various workplace settings (Manyika et al., 2017). These developments underscore the impact of AI-driven automation on workforce dynamics and the urgency for organisations to navigate this paradigm shift while addressing potential implications for employees and society.

In their investigation, Bhargava et al. (2021) scrutinised working adults' perceptions regarding the implementation of RAIA (Robotics, Artificial Intelligence, and Automation), specifically examining its impact on job security,

job satisfaction, and employability. Their study underscores the critical importance of cultivating workers' trust in AI systems, emphasising the recognition and utilisation of human expertise and capabilities within the evolving technological landscape. Echoing similar sentiments, the research conducted by Raj and Seamans (2019) suggests that companies benefit from actively involving workers in adopting new technologies, fostering a collaborative environment conducive to successful integration.

However, Chowdhury et al. (2022), drawing from insights provided by Elkins et al. (2013), caution that humans often resist new technologies when perceived as threats, irrespective of initial enthusiasm. While AI systems possess capabilities for sentiment analysis and interactive commands, as evidenced by chatbots (Kolbjørnsrud et al., 2016), they may not fully address the emotional complexities inherent in human interactions, as articulated by Raj and Seamans (2019) and Russell and Norvig (2010). Hence, ensuring the flexibility for conversation rerouting to a "human-in-the-loop" model becomes imperative, allowing human intervention when necessary.

Sako (2020) advocates for effective collaboration between workers and AI, envisioning a scenario where AI undertakes manual tasks while humans retain oversight functions for adherence to social and ethical norms. However, Barro and Davenport (2019) contend that despite businesses acknowledging the benefits of AI adoption, the full potential of AI expert systems still needs to be explored in enhancing human intelligence or replacing workers, attributing this limitation to the workforce's inadequate knowledge, skills, and understanding regarding AI's capabilities, limitations, strategic initiatives, and integration with existing business processes. Consequently, bridging this knowledge gap is crucial for organisations seeking to maximise the synergistic potential of human-AI collaboration while effectively addressing workforce concerns.

Brougham and Haar (2018) shed light on the workers' awareness of Smart technology (STARA) and AI's potential to replace them, demonstrating a negative influence on their well-being and job-related outcomes. Perceiving their roles as being at risk engenders feelings of undervaluation, diminished control, and

negative perceptions, subsequently leading to diminished career satisfaction and organisational commitment. These findings underscore the critical imperative of addressing workers' apprehensions and cultivating a sense of trust and security amidst AI advancements within the workplace.

Research studies contend that alleviating job loss fears is contingent upon workers engaging with AI symbiotic systems rather than those designed to supplant them (Agrawal et al., 2019; Manyika et al., 2017). Consequently, workers are more inclined to collaborate and interact positively, perceiving such systems when their coexistence is complementary rather than adversarial (Jaiswal et al., 2022; Wilson & Daugherty, 2019). For instance, while intelligent diagnostic systems may interpret X-ray images, radiologists remain integral in defining imaging protocols, correlating imaging findings with other medical data, and communicating results to patients. Accountability emerges as a critical consideration in integrating AI technologies into healthcare settings. Questions arise regarding the responsibility in misdiagnosis cases, highlighting the need for alignment with AI ethics and principles of accountability (Davenport & Dreyer, 2018) and underscoring the importance of establishing trust not only in how individuals interact with each other but also in their interactions with technology, particularly in instances of potential errors or misjudgements. Hence, establishing a culture of ethical AI deployment and transparent accountability mechanisms becomes imperative for promoting trust and confidence in AI-driven systems.

While organisations across diverse domains and industries actively pursue strategies to enhance employee acceptance of AI-enabled tools (Chatterjee et al., 2021; Sharma et al., 2020), literature underscores the indispensable need for human-AI interlock and collaborative intelligence (Wilson & Daugherty, 2018) necessitating the effective integration of human skills such as social intelligence and communication with the capabilities of AI systems, which are trained on extensive datasets to facilitate analysis. This finding underscores that AI technologies cannot replace this collaborative intelligence alone.

Schwab (2017) emphasises the importance of considering future worker skills, including technology usage and perceptions, in predicting job insecurity amidst the evolving landscape of the Fourth Industrial Revolution (4IR). Workers in roles requiring interpersonal interaction tend to experience lower levels of job insecurity. Yu et al. (2023) corroborate this perspective, highlighting workers' need to cultivate essential skills, processes, and competencies such as technology readiness, digital literacy, and interpersonal skills to execute their job roles effectively.

Urging executives to grasp the economic implications of automation, particularly the trade-offs between augmenting and replacing various activities with intelligent machines, and how these decisions impact the development of human skills within the organisation is vital (Holzer, 2022). It is an organisational imperative to adopt a nuanced approach to automation that acknowledges the complementary nature of human and AI capabilities, thereby fostering a symbiotic relationship that maximises organisational productivity and employee well-being.

According to Chui et al. (2015), the pace at which organisations adapt to the evolving landscape of automation and sustain their competitive edge hinges significantly on executive priorities regarding several key factors. These factors include the extent to which executives prioritise the automation of activities, the redefinition of jobs and processes, the implications for high-wage occupations, and the future trajectory of creativity and meaning within the workforce. By strategically addressing these considerations, organisations can effectively navigate the challenges and opportunities presented by a mix of AI automation and augmentation, thus positioning themselves for sustained success in an increasingly automated world.

Proposition 1:

AI technologies that enhance human capabilities through augmentation will build trust and establish collaborative intelligence for human-AI workplace coexistence.

2.4 Establishing Collaborative Intelligence

This literature section will explore how AI ethics and responsible AI contribute to building trust in AI technologies in establishing human-AI workplace coexistence.

2.4.1 AI ethics

Balancing ethics in AI between considering social norms and values and the benefits of AI technology is a requirement (Choung et al., 2023a). According to Siau and Wang (2020), ethics represents a complex human concept, encompassing moral principles that guide individuals and societies. Nalini (2020) argues that these principles form a framework of norms or guidelines delineating the distinction between right and wrong. Khogali and Mekid (2023) highlighted that ethical behaviour enhances employee performance, job satisfaction, organisational commitment, trust, and willingness to exceed expectations.

The design and development of AI introduce many ethical concerns, ranging from human biases and data privacy to transparency and the impact on unemployment and wealth distribution (Gulley, 2023). Organisations must implement responsible AI practices in addressing these concerns and maintain principles of fairness and accountability. Organisations should adopt frameworks that effectively navigate the challenges of AI deployment, ensuring ethical and beneficial AI development (Siau & Wang, 2020) and that these technologies align with societal values and contribute to collective well-being (Gulley, 2023). Consequently, adopting frameworks prioritising implementing ethical and responsible AI practices becomes imperative.

Proactive organisations committed to upholding the principles of responsible and ethical AI must identify groups at risk of experiencing disproportionate job displacement. This would necessitate the development of strategies to facilitate their reintegration into the AI-driven economy. There is a potential for a skills gap to emerge between the younger and older workers as AI assumes responsibility

for routine and low-value tasks (Choung et al., 2023a) and Schoeman et al. (2021) posit that this shift may favour experienced individuals.

Organisations must recognise and leverage human strengths with AI advancements for successful human-AI collaboration to ensure a smooth transition into the AI-driven future while promoting inclusivity and equitable opportunities for all workforce segments. Schoeman et al. (2021) posit the significance of human capabilities, such as judgment, communication, and creative thinking and poised to complement AI technologies.

2.4.2 Trust

Trust, drawing from the definition by Mayer et al. (1995), refers to a party's openness to vulnerability in response to the expectation that the other party will undertake a particular action crucial to the trustor. This anticipation persists even if the trustor lacks the means to supervise or regulate the other party's actions.

AI poses distinctive challenges with its anthropomorphic traits, advanced natural language processing, affective computing, and conversational skills (Choung et al., 2023a). To properly grasp the trust in an AI systems, it is essential to have a nuanced comprehension of trust that goes beyond its functionality, including the machine's ability to emulate human-like qualities. In human-AI interactions, trust hinges on concern for societal welfare, benevolence, assistance, impartiality, and empathy (Thiebes et al., 2021). It is pivotal to embed these values within AI systems to foster trust (Choung et al., 2023b), underscoring the importance of trust in cultivating what will be socially accepted of new technologies that could be disruptive.

Numerous studies have delved into the significance of trust in AI acceptance (Gillath et al., 2021; Rossi, 2018; Siau & Wang, 2018; Thiebes et al., 2021). The degree of trust in AI systems could fluctuate based on factors such as the system's form (e.g., robot, virtual agent), intelligence, shared worries, mutual vulnerability, and confidence in the system's capability (Glikson & Woolley, 2020). According to Glikson and Woolley (2020), shaping trust in AI by its tangibility,

transparency, reliability, and responsiveness plays a crucial role in fostering cognitive trust. However, the need for more transparency and explainability inherent in deep learning algorithms (Shin & Park, 2019), poses a significant challenge to establishing trustworthiness. Additionally, AI's anthropomorphism can specifically foster emotional trust (Glikson & Woolley, 2020) where Yam et al. (2021) drawing on Epley et al. (2007), anthropomorphism involves attributing human-like characteristics, motivations, intentions, and emotions to non-human agents. This understanding is relevant because Gillath et al. (2021) suggest that the interactions and perceptions of humans towards AI may resemble how they interact with one another.

Transparency, accuracy, usability, and reliability are critical components in building trust (Choung et al., 2023a; Siau & Wang, 2018). Operational safety and data security are also critical factors influencing trust in technology, as humans are unlikely to trust anything too risky to operate, and data security is paramount in the context of machine learning, where large datasets raise huge privacy concerns (Siau & Wang, 2018). Even though many AI systems can perform specific tasks better than humans, workers' trust in AI technology remains limited due to algorithmic bias, inexplicable outcomes, invasion of privacy, and lack of accountability (Benbya et al., 2020). There are transparency issues such as the 'black box' of machine learning that limits people's understanding of the technology, which leads to information asymmetries and hinders trust in AI agents (Siau & Wang, 2020) as humans want to understand how cognitive technologies make decisions. Security is also a considerable concern, particularly for telecommunications, and can result in users experiencing psychological stress when personal and sensitive data are compromised and accessed due to insufficient network security (Wirtz et al., 2018), leading to erosion in user confidence and willingness to use AI systems (Kelly et al., 2022).

Hence, establishing and preserving trust is vital for organisations' seamless integration and widespread acceptance of AI systems. Workers' trust in AI technology is pivotal for successfully adopting and integrating AI (Glikson &

Woolley, 2020) as it can significantly influence their inclination to embrace, enhance, and cultivate AI in the workplace (Siau & Wang, 2018).

When users perceive a process as transparent, accurate, and fair, their trust levels increase, increasing their sense of intention (Shin & Park, 2019). Despite ongoing efforts to develop explainable AI, the opacity of many current AI models impedes interpretability and accountability (Thiebes et al., 2021). Companies must elucidate the underlying mechanisms of AI systems, including data sources, algorithms, and auditing procedures, to foster trust and accountability, thereby making AI systems more responsible, observable, and effective socio-technical systems (Choung et al., 2023b). Concerns have been raised regarding the susceptibility of such AI models to biases, errors, and inaccuracies, highlighting the importance of ongoing research and development efforts to address these challenges (Brynjolfsson, 2023). However, machine learning could lead to further improvements (Dwivedi et al., 2021), where organisations can significantly increase model quality by creating output that matches any specific setting's priorities (Ouyang et al., 2022).

As AI continues to evolve, it is imperative to explore the social and psychological mechanisms governing trust in human-AI interaction (Gillath et al., 2021). Trust in technology differs qualitatively from trust in humans due to the absence of volition and moral responsibility in technology (Mcknight et al., 2011). In contrast, according to Choung et al. (2023b), functional trust tends to be higher among users of various AI technologies, indicating increased acceptance after utilisation (Choung et al., 2023b). Such insights underscore the intricate dynamics shaping trust in human-AI interactions and highlight the importance of transparency, reliability, and usefulness in fostering trustworthiness in AI technologies.

Jarrahi (2018) underscores the importance of embracing the principle of AI augmentation, wherein leveraging AI enhances human abilities rather than replacing them, particularly for organisations. Establishing human-AI workplace coexistence becomes crucial in fostering trust in AI technologies, which can lead to increased job satisfaction and improved worker retention. Furthermore, integrating AI ethics and responsible AI practices into designing, developing, and

implementing AI systems is essential. This approach ensures that concerns are addressed and potential negative impacts on trust and worker well-being are minimised.

Establishing initial trust and facilitating continuous trust development that could develop into a knowledge-based trust (Thiebes et al., 2021) could cultivate a strong relationship between workers and AI. Lichtenthaler (2020) suggests that worker attitudes (both optimistic and pessimistic) are crucial in AI adoption, so trust in AI systems and the technology provider is a critical factor in AI adoption (Kelly et al., 2022; Thiebes et al., 2021; Yu et al., 2023). Insufficient trust can lead to reduced cooperation, efficiency, and productivity (Gillath et al., 2021), thereby affecting the integration of AI systems and agents into teams (Chakraborti et al., 2017), corroborating Chiu et al. (2021) that trust fosters collaboration and effective teamwork. People tend to expect perfection from non-human machines and for these machines to be error-free. Non-reliable AI systems will severely diminish trust (Gillath et al., 2021), citing (Dzindolet et al., 2002).

Underpinning human behaviour to the need for emotional connection with AI technology at this point is unable to adapt and meet the emotional requirements of humans (Kolbjørnsrud et al., 2016). Holzinger (2016) posit, while AI systems can seamlessly interact with human users, trust remains a crucial human characteristic. Thus, a "human-in-the-loop" is still necessary even with advanced AI such as chatbots. Emotions, subjective factors like trust, and the ability to provide empathy and emotional support make it challenging or impossible for AI to replicate human augmentation fully. For example, while AI technologies have made advancements in medical diagnoses, human doctors still play a vital role in discussing treatment options and delivering comprehensive care. Patients trust human judgment more than machine diagnoses and human healthcare professionals are better equipped to meet diverse patient needs, particularly in situations requiring sensitivity and comprehensive care (Agrawal et al., 2017).

Proposition 2: AI ethics contribute to building trust in AI technologies and establish collaborative intelligence for human-AI workplace coexistence.

2.4.3 Skills in AI

Trust in AI will further be enhanced if workers know how to use the AI systems, and hence, getting workers fit for the future will require training and development for organisational changes produced by AI systems. So, developing AI and its application-related skills are crucial if workers are to remain employable (Brougham & Haar, 2018). Linking these technologies to organisational needs and deliverables requires an in-depth comprehension of organisational members' abilities (Davenport & Kirby, 2016) and identifying skills shortages. Advanced technologies have altered the nature of jobs and the structure of the labour force by replacing middle-skill occupations with high-skill occupations, resulting in job polarisation (Autor & Dorn, 2013). Raj and Seamans (2019) indicate that the RAIA implementation necessitates a radical reorganisation and reshaping of organisations, resulting in alterations to worker skill requirements and duties. Pluta and Rudawska (2016) concur that AI-driven technological advancements or accelerations in the organisation enhance organisational capacity and result in numerous changes in the behaviours and expectations of workers, customers, and other market participants. Previous technological advancements primarily targeted the automation of routine manual tasks (Makarius et al., 2020), with Frey and Osborne (2017) predicting that ML technologies will particularly affect non-routine tasks. This integration of AI brings forth a new set of challenges due to its cognitive, relational and structural complexities (Kaplan & Haenlein, 2020; Syam & Sharma, 2018), making the changes required for AI integration unique and specific (Makarius et al., 2020).

AI introduces complications to the workplace as basic processes become increasingly automated and require more education, training, and skills to benefit businesses, with the level of education and skill required of workers rising (Hecklau et al., 2016). Malik et al. (2021) identified complexity as another theme

where many employees need help understanding AI-related applications, with workers ending up working longer hours using the new AI software. This information overload and technostress reduces job happiness. There is an agreement amongst researchers that workers must acquire new skills to work with AI (Acemoglu & Restrepo, 2018; Raj & Seamans, 2019) or expand their existing skills focused on intuitive and empathetic skills (Budhwar et al., 2022).

McKinsey's report on the economic impact of AI explores organisational behaviours and the specific impacts on different countries. It emphasises the potential for AI to worsen technologically-induced unemployment and deepen the divide between emerging and developed markets and between the affluent and the impoverished (Bughin et al., 2018). However, Nam (2019) posits that technological preparedness directly impacts job insecurity, as workers with strong technical skills tend to feel more secure about their future employment prospects. McClure (2018) opines that individuals who are not technophobes perceive technology as a source of job opportunities and a means to reduce inequality. In contrast, technophobes experience fear and anxiety regarding robots and AI, which can lead to concerns about unemployment and financial insecurity.

Challenges for organisations would be finding resources with the right level of skills. They would have no option to replace workers with limited technological abilities or even an ageing workforce nearing retirement who would not be willing to be upskilled to perform new tasks (Chuang, 2021), resulting in impacting trust as workers could believe that they are becoming irrelevant in the face of these advancing technologies.

Floridi et al. (2018) posit that vulnerabilities arise from deskilling in crucial fields such as healthcare and aviation due to organisational dependence on AI. Developing AI-compatible skills and considering radical concepts like universal basic income is necessary to address this. Intergenerational solidarity is crucial for a fair transition. Balancing human agency and responsibility remains pivotal (Floridi et al., 2018) and correlates with the ethical considerations required for AI.

Proposition 3: Skills development in AI technologies will foster trust in AI technologies and establish collaborative intelligence for human-AI workplace coexistence.

2.5 Conclusion of Literature Review

The review highlights the importance of fostering a collaborative working environment for shared prosperity and organisational success. Decision-makers should prioritise AI augmentation over replacing workers with human-like Artificial Intelligence (HLAI) automation. Augmenting human capabilities, rather than replicating them, ensures that workers retain economic and political bargaining power and can demand a share of the value created (Brynjolfsson et al., 2023).

Balancing automation and augmentation can create a virtuous cycle of selective deskilling and strategic requalification, improving human and machine capabilities. This cycle can help organisations mitigate the adverse effects of digital transition on employees and the labour market. Employees and managers with obsolete skills can acquire in-demand, higher-level augmentation skills, rehumanising work by shifting focus from repetitive tasks to more creative and satisfying ones (Daugherty & Wilson, 2018).

Fleming (2019) argues that this creates an unexplored environment where organisations need strategies and practises to help workers accept, use, engage, collaborate, cooperate, and change their behaviour to develop symbiotic partnerships with AI systems. Addressing factors that hinder employee and AI integration is crucial, including employee uncertainty, inadequate training, concerns about job substitution (Frey & Osborne, 2017), lack of trust in AI systems (Glikson & Woolley, 2020; Rossi, 2018) and limited understanding of how to effectively utilise AI (Raisch & Krakowski, 2021).

The reviewed literature shows that AI technologies change the nature of the job function and role, with organisations needing initiatives such as reskilling, performance management, skills development, and worker inclusion. Increasing

productivity requires the creation of a digital culture comprised of digital people trained with digital instruments, that is, with the appropriate skills; therefore, businesses must surmount this barrier to advance the adoption of digital technologies (Nam, 2019). It will be an organisational imperative to ensure that workers are provided training and education to integrate, work, and coexist with these technologies will be an organisational imperative and that organisations have a vested interest in ensuring continued employment.

Chowdhury et al. (2022) highlight the importance of conducting further research to understand the technical and human aspects of human-AI collaboration comprehensively, and this collaboration would be essential to establish effective workplace coexistence. This entails creating a conducive work environment that fosters trust, open communication, and shared decision-making between human workplace systems. Makarius et al. (2020) state that by addressing challenges, fears, and concerns related to an AI-infused future, organisations that can facilitate successful collaboration between human-AI workplace systems will potentially enhance business.

CHAPTER 3. RESEARCH METHODOLOGY

This chapter will outline the study's research methodology and design. It will explain the research approach, design, data collecting, analysis, population, sampling, and ethical considerations.

3.1 Research approach

The investigation adopted an exploratory approach, utilising qualitative research methods. Qualitative research focuses on learning from participants and understanding their perspectives rather than imposing predetermined queries from the researcher's viewpoint. The literature will inform the study and align with the principles of participant-centred inquiry. The exploratory nature of a qualitative study will be one of its primary justifications. It will typically indicate that little is known about the topic or population being studied, and the researcher will endeavour to build an understanding based on what is heard from participants (Creswell & Creswell, 2018). Exploratory research was selected due to the purpose of the study, which is to gain insight into AI ethics, responsible and ethical AI, trust, and AI skills as factors that could impact human-AI workplace coexistence when adopting and implementing AI technologies.

3.2 Research design

Kumar (2018) advocates using a case study approach as case studies, predominantly a qualitative study design, are used for research to allow for a holistic and in-depth exploration of the aspect(s) instead of validating and quantifying. Using this approach clearly defined how the research objectives were to be explored. This design is of utmost importance (Kumar, 2018). Qualitative study findings involve developing diverse descriptions and themes from the data, representing participant views and environment or individual details. These results contribute to narrative research, phenomenology, grounded theory, ethnography, or case study approaches, employing qualitative research strategies to explore various aspects of the subject matter (Creswell & Creswell, 2018).

The research design outlined the research paradigm, predominantly post-positivism. Data was collected from the selected participants using one-on-one semi-structured interviews, and relevant insights were extracted. Using a case study approach was deemed appropriate because the study aimed to explore and understand how AI ethics, trust, and AI skills in AI can establish human-AI workplace coexistence, specifically in the telecommunications industry in SA.

3.3 Data collection methods

Qualitative semi-structured interviews were conducted to obtain specific insights within a sampling pool of accessible professionals employed in the South African telecommunications industry, as the research required an examination of the concepts identified through the literature review. The interviewees consisted of managerial employees who were working with AI systems or could be active decision-makers for their lines of business, and this purposive sampling ensured that participants were qualified to answer the questions to generate the insights required. All participants from the identified sample pool agreed to participate in the study. The intention of interviewing this purposively selected group was to understand their views and opinions (Creswell & Creswell, 2018) as they relate to the research problem due to their exposure to AI systems within the organisation. The interviews were conducted at a specified time rather than over a period, allowing for a cross-sectional research design. Some questions were predetermined, but the interviewer could exclude or include themes and inquiries as needed (Saunders & Lewis, 2012).

3.4 Population and sample

3.4.1 Population

The population consisted of participants employed within the telecommunications industry that were spread across lines of business servicing enterprises, SMEs, and individual consumers at the time of the research study. The lines of business

selected were within the IoT, Cloud and Security, network, and customer services, as these are areas where AI systems have been deployed or are where AI systems are still being implemented to automate certain task functions or augment human capabilities with AI systems to ensure task efficiencies. These professionals were qualified as having been exposed to AI systems that have been either implemented or were planning to implement AI systems in their areas, which were used as a basis for the extrapolation of the study. Access was gained to the identified participants in the population by leveraging the researcher's professional network.

3.4.2 Sample and sampling method

Participants were selected based on their managerial level, ensuring a minimum working experience of ten years working in the telecommunications industry and being senior enough to be strategic decision-makers. Secondly, the sample also included managerial participants planning to adopt AI technologies for their business units or have employees actively working with AI systems. The sample also included employees who are subject matter experts, are actively working with AI technologies, or have been involved in implementing AI systems within the organisation. The ten participants will be employees per the identified business lines across enterprise and consumer.

Table 5: Participants List

Lines of Business	Number of participants
IoT	1
Enterprise Technology	1
Enterprise business unit – innovation	1
Enterprise strategy	1
Information Technology	1
Commercial Services	1
Customer Services	1
AI & RPA	1
Digital transformation	1
Cloud, hosting & security	1
Total	**10**

Source: Author's construction

3.5 Research instrument

A guide for conducting interviews served as the research instrument. This guide followed a semi-structured schedule, with the interview topics aligned with the study objectives and the insights obtained from the literature review. For reference, the interview guide is provided in Attachment A.

3.6 Procedure for data collection

Participants met online via Microsoft Teams for virtual one-on-one interviews. The interview guide assisted with phrasing the questions to help steer the conversation. The interviews were conducted, recorded on Microsoft Teams, and captured on a transcript.

3.7 Data analysis strategies and interpretation

In this study, interviews were undertaken with a purposive sample comprising ten seasoned telecommunications professionals employed in a specific organisation

with extensive industry expertise to enrich the quality of the data collected. These interviews yielded a wealth of invaluable insights pertinent to the research inquiry. The interview recordings and transcripts served as primary data sources, revealing recurrent themes and topics of significance aligned with the research objectives. The collected data underwent rigorous thematic classification using a methodical approach and evaluation to contribute to a comprehensive understanding of the subject matter. This process was facilitated by leveraging the functionalities of Atlas Ti 24 software, a robust tool tailored for qualitative data analysis.

3.8 Possible limitations and challenges of the study

A limitation of the study is that some participants may provide insights based on false pretences due to negative perceptions about technology replacing jobs, especially in the service centre business unit, which extensively uses an AI chatbot to interact with customers.

3.9 Quality Assurance

3.9.1 Transferability

Qualitative research will need help in transferability due to its focus on case studies and limited samples. This approach focused on the contextual uniqueness and significance of the social world being studied. Researchers will be encouraged to generate "thick descriptions" or detailed accounts of a culture, which will provide a database for evaluating the potential transferability of findings to other environments. This approach will help researchers understand the significance of their findings in different contexts (Bryman, 2016).

Transferability was not a priority for this study because it was telecom specific.

3.9.2 Credibility

Creditability, a key criterion for trustworthiness, will be demonstrated through multiple perspectives of social reality. Researchers will adhere to good research practices and seek confirmation from participants to ensure an accurate understanding of the social world. In line with this, qualitative researchers increasingly employ respondent validation to ensure that their findings align with the perspectives and experiences of participants (Bryman, 2016).

Participants were purposively selected to ensure relevant and credible responses. Cross-checking will ensure that the data collected accurately reflects what participants said, and this will require the researcher to share interview data and conclusions with participants for their feedback and corrections.

3.9.3 Dependability

The interviews were recorded and transcribed so the researcher could document each step, which could be evidenced (Creswell & Creswell, 2018).

3.9.4 Confirmability

The interviews were documented to show how data was collected. The research context, participants, and data-gathering methods were documented. The researcher will record and organise data, keep correct and extensive research notes, and document any adjustments or alterations during the investigation. Data analysis will improve confirmability by using Atlas Ti 24 software to analyse data objectively. Standardised methods allowed the researcher to verify and repeat the results. The researcher also encouraged peer debriefing and external research scrutiny to address study biases and limits.

3.10 Ethical considerations

Permission was obtained from the Wits Business School Ethics Committee once the Post Graduate Committee (PGC) approved the research proposal. This process was followed to ensure the ethical integrity of the research study. Upon receipt of ethics approval, clearance was obtained from the organisation to conduct interviews and research activities. This clearance letter adhered to all organisational compliance protocols governing employee research.

Participants were then invited to participate in the study voluntarily, with explicit assurance regarding the absence of associated risks. Documentation, including the organisation's permission letter and the Wits Clearance letter, was provided to support this assurance, ensuring alignment with all requisite protocols for data collection via interviews. Participant consent for interview participation was solicited through a consent form; however, signing the form was not mandatory. The consent form delineated the scope and objectives of the research and participants' agreement to utilise their data. It also guaranteed participants that all collected data would remain anonymised throughout analysis and reporting processes, with usage restricted solely for research purposes.

Specific provisions were outlined regarding the processing, utilisation, and secure storage of collected information, thus assuring participants of data confidentiality and security. The interviews were conducted remotely using Microsoft Teams, with recordings subsequently transcribed for analysis. In the event of any follow-up inquiries, communication primarily occurred through email. Participants were scheduled for hour-long meetings, with timing tailored to accommodate their availability and convenience. The transcribed interviews were securely stored on a cloud server, with access restricted solely to the researcher and not shared with other parties to ensure the confidentiality and integrity of the data collected.

CHAPTER 4. PRESENTATION OF FINDINGS

4.1 Introduction

AI technologies are increasingly being used in telecommunications for customer service improvements and management of the network, with the objectives of driving cost efficiency, innovation, and optimisation. This results in increasingly automating their operations and processes to derive the associated benefits of AI but has some negative consequences for their workforce due to the risks and challenges of the technology and the potential for job disruptions due to job redundancy and changes in job roles. This necessitates the study of the role of AI ethics in establishing human-AI workplace coexistence to understand the specifics of telecommunications in addressing the associated risks and challenges.

This chapter presents the findings of the participants interviewed to garner the necessary insights on the following research objectives:

1. To explore the influence of AI augmentation technologies in addressing job insecurity and building trust.
2. To explore how AI ethics contribute to building trust in AI technologies.
3. To explore the importance of AI skills development in fostering trust in AI technologies.

The study used a case study approach to do in-depth semi-structured one-on-one interviews with participants purposefully selected based on their role and experience in AI technology, thereby ensuring the quality of the data collected.

4.2 Purpose of the Chapter

This chapter presents the research outcomes aligned with the previously discussed research objectives. It commenced by providing background information about the participants, followed by the presentation of the findings, and ended by concluding remarks.

4.3 Background Information on the Participants

Ten participants were purposefully selected from the organisation based on their roles and extensive industry experience in telecommunications spanning over ten years. These individuals, serving as senior and middle managers in areas such as IoT, Cloud and Security, network, and customer service, were chosen due to their involvement in sectors where AI systems are either already deployed or in the process of implementation to automate tasks or augment human capabilities for enhanced task efficiencies.

Data from semi-structured interviews underwent thematic content analysis using Atlas.ti 24 software and Microsoft Excel. The findings were presented through network diagrams, quotations, and tables. The primary themes and codes extracted from the data revolved around participants' understanding of AI in telecommunications and its practical application in their respective business domains and the role of AI ethics, trust and AI skills in the adoption process. The researcher needed to grasp the utilisation of AI in this context, as it shed light on factors that could impede AI adoption and its implications for workplace coexistence.

Subsequent sections of the study delved into the findings aligned with the research objectives.

4.4 Adoption of AI for Telecommunications

To lay the foundation for exploring AI ethics implications in the telecommunications industry, participants provided insights on the reasons for adopting AI and the advantages and challenges experienced with using AI in their areas. The aim was to gather information on the then-current applications and implementations of AI within the organisation and the current state thereof.

Table 6: Artificial Intelligence: Reasons, advantages, use of AI and challenges

• Adoption of AI : Reasons	• Use of AI in telecommuniations
• Acceptance through understanding the technology	• Call centres (Customer profiling and support)
• Accessibility and reduced complexity of the technolgy	• Chatbots
• Agility from innovation	• Customer Relationship Management (CRM)
• Allows predictive analytics	• Cybersecurity
• Competitive pressures and customer expectations	• Finance department, HR and Legal
• Convenience for customers	• Financial service, healthcare and agriculture applications
• Cost pressures	• Gathering of insights
• Enables automation	• Ideation and innovation
• Enhance customer experience	• CVM (Intelligent pricing)
• Future readiness of the organisation	• Network infrastruture services and fault detection
• Organisational survival	• Network optimisation, predictive analytics and solutioning
	• Operations management
	• Personalised marketing and product recommendations
	• Proactive Management for support department
	• Processing efficiencies
	• Proposal writing
• Advantages of AI	• Challenges in AI
• Automation driving efficiencies and ROI	• Authentication
• Caters for inclusivity	• Change Management
• Creates new sales channels	• Concerns about the awareness of AI ethics
• Creates opportunities and enables optimisation	• Concerns as an emergent technology
• CRM and CVM	• Cultural
• Drives resource and process efficiencies	• Job disruption or job loss
• Enables data analytics and problem solving	• Job loss due to automation
• Enhances human interaction through conversational AI	• Job resillience
• Finds patterns in data	• Legal void and uncertainty in AI legislation
• Improves revenue and productivity and reduces costs	• Monitoring AI systems for ethical considerations
• Increases effectiveness and improves decision-making	• Quality of data
• Innovation and organisational growth	• Resistance
• Risk Management	• Technology advancement
• Skills Development and job opportunities	• Trust
	• Trust in AI technology
	• Understanding the tehnology

Source: Author's construction (extracted from Atlas.Ti Project AI ethics)

These questions helped in understanding the practical aspects of AI adoption, identifying specific use cases, and gaining insights into the organisation's existing practices related to AI technology. By exploring how AI is currently utilised, the researcher could lay the foundation for subsequent inquiries, such as examining the influence of AI on job roles, assessing the ethical considerations in then-current AI applications, and understanding the organisation's overall strategy and reasons regarding AI adoption. The study focused on the themes of automation versus augmentation and its impact on addressing job insecurity and fostering trust. Responses provided insights into the organisation's AI landscape, informing an analysis of AI ethics in the workplace and its role in establishing human-AI coexistence. It examined the influence of AI awareness on the technological

approach for trust and organisational commitment to skills development in AI for building trust in AI technologies and trusting the organisation.

All the participants were aware of the new generative AI technologies such as ChatGPT, and some were using ChatGPT to assist with proposal writing. Participant 2 emphasised the significant impact of advancements in AI, particularly with the release of ChatGPT and noted that while some employees may perceive these changes as unfavourable due to disruptions to the status quo, those who embrace the benefits see it as a positive transformation. Participant 4 highlighted the emergence of large language models and conversational AI, spearheaded by technologies like ChatGPT placing emphasis on how these advancements have challenged societal norms and generated widespread interest, marking a significant evolution in AI capabilities compared to previous algorithms. Participant 6 underscored the transformative potential of generative AI, particularly exemplified by ChatGPT's launch and likened this development to the game-changing impact of web browsers in the early 90s, suggesting that generative AI can revolutionise various aspects of society.

These viewpoints collectively highlighted the recognition of AI's profound influence on society, acknowledging its potential to bring about significant change and innovation across different domains for the organisation.

Table 7 : Quotations on AI use in telecommunications

ID	Codes	Quotation Content
1:2	Use of AI in telecommuniations: Chatbots / Big data and RPA	AI technologies such as RPA, we already make extensive use of RPA in terms of even activities like our billing activations, which previously required people to have to go into the system and manually activate solutions for billing
1:4	Digital transformation and digital maturity Use of AI in telecommuniations: Customer Relationship Management (CRM)	So I would say we probably still at the beginnings of our AI journey within my environment, but certainly looking to ramp up and even employing it for activities such as revenue assurance, pricing etcetera, etcetera. So I do see it as a huge opportunity.
1:39	Use of AI in telecommuniations: Customer Relationship Management (CRM)	I know that in the customer service environment they are leveraging AI. So I gave you the example of the chat bot for example, but there will be certain other functions that are probably slightly further behind on the curve.
3:111	Use of AI in telecommuniations: Network infrastruture services and fault detection	So just a quick specific example, if we have a similar fault that occurs all the time within our network instead of it requiring human intervention, AI or machine learning will pick up the trend and move that fault in a workflow without any human intervention and by doing that, we can eliminate a good percentage of faults that recur and have a similar trend during a similar period.
3:112	Use of AI in telecommuniations: Call centres (Customer profiling and support)	And then from a call centre perspective, it even teaches the systems using AI to be able to answer a list of questions that require a single dimension answer and that will eliminate us always referring questions to a call centre agent.
4:171	Use of AI in telecommuniations: Network infrastruture services and fault detection	I'd say in the context of telecommunications, we've been using AI technology for instance in the deployment and also in the securing of Network infrastructure services for quite a number of years already, ai be it didn't require in that application as much computing resource
5:88	Use of AI in telecommuniations: Gathering of insights	When I think of AI, the words that pop into my mind for our industry is convenience, speed, umm, agility and flexibility and when I look at the telecommunications industry itself, we use AI predominantly to be able to gather insights. We understand customer behaviour patterns. We gather data using AI.
5:89	Use of AI in telecommuniations: Gathering of insights	We also have artificial intelligence in the sense of analysing processes and based on those results we build automation bots. So if I look at from a ordering of something online, all the way to um fault finding in from a support perspective do down to managing logistics, understanding customer behaviour patterns in the sense of when do they order, what do they order, how much do they order?
5:90	Use of AI in telecommuniations: Proactive Management for support department	From a support perspective, what are the root causes of things that do break umm and based on all of those things we try and do proactive management. Well, that's the hope, and that's what we're busy building. How do we do proactive management so that we can circumvent things before they happen and it's all done under the you intent of excelling customer experience.
6:117	Use of AI in telecommuniations: Personalised marketing and product recommendations	How do we offer better products to the right customers at the right time at the right place at the right price point, etcetera, based on what we know about them and artificial intelligence has the ability to do all of that.
6:118	Use of AI in telecommuniations: Processing Efficiencies	When you're dealing with millions and millions of customers, you, you just can't do that manually and you need the kind of higher order algorithm that and that's exactly what artificial intelligence does. So overall, I'm kind of quite positive about it. I think it's going to unlock a world of possibilities.

Source: Author's construction (extracted from Atlas.Ti24 Project AI ethics)

All participants could provide concrete examples of using AI, its benefits, and general implications for the organisation. Participant 2 defined AI as: "*So like, if we take the broader definition of AI would be obviously we using it includes things like machine learning and so on and automated decision making but also you know any kind of cognitive services that goes with that whether it is vision or sound, you know kind of fixed to speech, speech to text, but also then I think recently the ability to generate content whether it is you know language or whether it is images. So, like taking all these things together, obviously finds itself in different ways in the company"*.

Participant 7 stated their understanding of AI in telecommunications as: *"From an AI, artificial intelligence perspective, you know, in the context of telcos today, you know, it is really talking about, you know, computer programs that are able to almost apply human rationalisation and logic to problem solve or identify new opportunities using specific programs"* and participant 10 defined this as *"So, AI is literally just the emulation of a machine to do thinking or to perform actions that*

looked like human thinking. So typically, AI can do a job a human can do but significantly faster and more efficiently, and it extends from there. Definitely, AI today is not what we think it is or what Elon Musk is worried about, which is typically General AI where machines can truly think for themself, but we can absolutely approximate human thought and human thinking processes with AI today".

4.5 The influence of AI augmentation technologies in addressing job insecurity and building trust

The objective of the investigation was to assess participants' awareness of AI trends in telecommunications, aiming to comprehend how their utilisation of AI within the organisation aligned with the organisational strategy for adopting AI technologies.

4.5.1 Organisational Strategy: Automation versus augmentation

The exploration delved into the organisational strategy for adopting AI technologies, specifically focusing on how AI augmentation was prioritised to address job insecurity and build trust. The aim was to establish the organisation's approach when adopting AI and if these strategies focused on prioritising human-AI workplace coexistence.

The participants highlighted the following:
Building trust in AI is critical for its successful integration into various domains, and this involves fostering confidence in AI's ability to perform tasks reliably and efficiently. Transparency regarding the rationale behind AI adoption is crucial, assuring stakeholders that AI is intended to augment human capabilities rather than replace them. Furthermore, trust is contingent on AI's alignment with organisational values and culture and establishing trust between the organisation and employees is essential to mitigate fears of job displacement and ensure that AI adoption is perceived as a tool for skill enhancement rather than a threat to job security.

The following responses from the participants were recorded and summarised:

Table 8 : Responses to organisational strategies

Participants	Responses to organisational strategies
Participant 1	Highlighted a strategic approach centred on Big Data, machine learning, and Robotic Process Automation (RPA) and discussed the progression from understanding Big Data to implementing machine learning and RPA. Emphasis was on upskilling employees to contribute to automation efforts, with a flexible and agile structure allowing for reassignment across projects.
Participant 2	Emphasised the foundational role of trust in successful AI integration, citing past experiences with RPA in time-sensitive tasks, where initial enthusiasm was dampened by code-related issues, highlighting the need for trust-building measures. The participant stressed the importance of controls, visibility, and transparency in fostering trust, particularly as organisations venture into more advanced AI interfaces.
Participant 3	Stressed the need to augment capabilities and drive automation for menial tasks, enabling human resources to focus on areas where AI is less advanced. The strategy involves a combination of automation and augmentation.
Participant 4	Aligned with the organisation's fundamental principles of survival and growth, citing shareholder value, market share, and continuous development as key drivers. Acknowledged the challenge of balancing cost considerations with the pressure to drive efficiencies. This view was supported by Participant 8, who emphasised that the value drivers of any transformational initiative were centred on improving revenue, reducing costs, managing risks, or driving innovation.
Participant 5	Focused on the impact of AI in the telecommunications industry, highlighting applications across various aspects, from online ordering to fault finding. The goal is proactive

	management to enhance customer experience with a focus on convenience, speed, agility, and flexibility, highlighting the multifaceted applications of AI in gathering insights, understanding customer behaviour patterns, collecting and analysing data, and automating processes.
Participant 6	Noted the high unemployment rate, instilling fear and resistance to automation. Resistance is attributed to economic concerns affecting job security and reluctance to embrace change and self-development. The comfort derived from long-standing routines makes it challenging to motivate individuals to explore new opportunities or undergo training.
Participant 7	Explored the human aspect of automation, emphasising the need for training, unlocking efficiencies through AI, and individuals taking the initiative to upskill themselves.
Participant 8	Articulated a perspective within the telecommunications sector, specifically focusing on techco strategies. In this context, generative AI technologies, particularly chatbots, were perceived as instrumental tools for efficiently managing routine queries. The participant advocated for the extended team model, emphasising the collaboration between AI and human interactions instead of outright replacement. The application of the Pareto model was highlighted, guiding the use of technology to handle most basic queries effectively. This beneficial approach allowed human resources to redirect their focus towards more complex and intricate tasks. Moreover, AI technologies were recognised as active contributors to the creation of assets, fostering engagement through user interactions.
Participant 9	Highlighted the duality of opportunities in digital transformation, balancing operational efficiencies with potential job redundancies. AI serves not only as a tool for optimisation but also as a catalyst for innovation.

Participant 10	Focused on the efficiency improvement aspect of AI in telecommunications, particularly its capabilities in automation and learning from datasets. Generative AI introduces uncertainties into the job market, raising ethical considerations related to biases.

Source: Author's construction (extracted from Atlas.Ti24 Project AI ethics)

4.5.2 AI ethics contribute to building trust in AI technologies

Most participants stressed the need for robust governance frameworks to optimise AI benefits while managing risks. Participants emphasised the importance of existing regulations, such as data privacy laws, and advocated for evolving governance structures to accommodate AI advancements. Additionally, they proposed creating a governance board to oversee AI implementation. They urged for global discussions with industry counterparts, regulatory bodies, governments and consultancy firms to develop nuanced ethical frameworks that would stay aligned to changes as AI technologies advanced.

Seven participants underscored human oversight in ensuring ethical AI use, emphasising responsible citizenship and organisational alignment. Participants highlighted the need for checks and balances in AI use, stressing human accountability and viewing AI as a tool, not a replacement. Guardrails were crucial to address concerns, especially those amplified by AI technologies like ChatGPT.

They also underscored the importance of implementing safeguards to prevent AI errors and highlighted the risks of data leaks and misuse. Acknowledging the dynamic nature of AI-related legal frameworks, participants advocated for a cautious approach to adoption and emphasised the need for guiding values and objectives. They highlighted the challenges of implementing ethical standards and suggested testing AI engines for biases.

Organisational policy evolution was deemed necessary to govern AI adoption effectively, with clear guidelines and protocols ensuring responsible and ethical AI use. Awareness campaigns and training programs were crucial to educate employees about AI, its benefits, and its implications, fostering a positive attitude towards AI adoption. Participant 9 stated that waiting for legislation to regulate AI adoption was discouraged in favour of a proactive approach where organisations established ethical frameworks and guidelines informed by customer feedback and ethical principles. The emphasis was placed on the importance of customer-centric approaches in developing AI-related policies and practices to ensure alignment with customer needs and concerns. The findings also suggested anticipating technological advancements and developing organisational guidelines based on ethical principles and customer feedback.

There was consensus amongst most of the participants that AI should not be deployed to replace humans but to augment their capabilities. The necessity of clearly delineating responsibilities and accountabilities between humans and AI was underscored. It was essential to the participants that organisations adopt ethical practices, ensuring that AI is used responsibly and for the benefit of society to align with the organisational values. The organisation was not to drive automation with the aim of reducing headcount and achieving cost optimisation but to introduce efficiencies to business processes and improve employee productivity by augmenting their abilities. Where job displacement occurred, the organisation negated the impacts of job displacement by repurposing the employees through upskilling and cross-skilling. Ethical considerations extended to job roles, where redefinition is proposed to integrate human-machine collaboration explicitly.

Additionally, AI algorithms need transparency to foster stakeholders' trust regarding their reliability and fairness, stressing the necessity for ethical practices and AI integration to originate from top leadership. They underscore the importance of embedding ethical principles into the organisation's culture and operations. This involves continual evaluation of the impact of AI initiatives and adapting practices accordingly. Leadership's commitment to ethical conduct sets

the tone for the company, influencing decision-making processes, policies, and organisational norms.

Participant 2 detailed this as follows:

"I do think it is about being responsible leaders that might you know need to be open-minded about this but also like evaluate, constantly evaluate what the impact is of what you are trying to do and measure those impacts and adapt to the effects that you are seeing."

Figure 4 below shows some of the selected quotations from participants on the ethics and governance of AI.

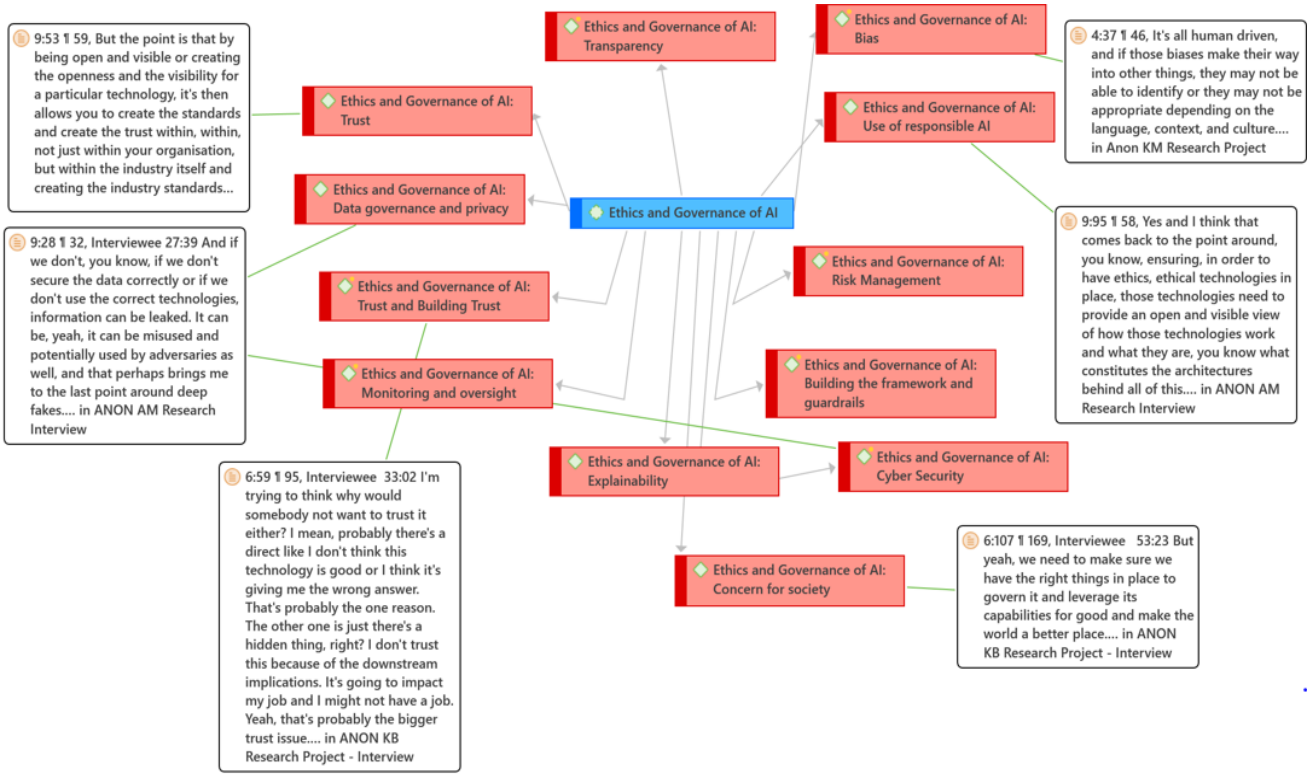


Figure 4: Ethics and Governance

Source: Author's construction (extracted from Atlas.Ti 24 Project AI ethics)

4.5.3 The importance of AI skills development in fostering trust in AI technologies

Skills development in AI was vital for all the participants and a priority of how the organisation would ethically address potential job displacement, thereby

contributing to trust. This strategy aims to facilitate the transition in job roles, empowering workers to adapt flexibly and coexist with AI systems in a dynamically changing workforce. The participants viewed reskilling and upskilling programs as a priority and an opportunity for empowering workers to acquire new proficiencies and improve their capacity to collaborate effectively with AI systems, adopting an agile mindset and working cross-functionally, thus allowing for repurposing skills.

All the participants agreed that there should be an emphasis on skills development, and training initiatives are needed to equip individuals with the knowledge and expertise required to work alongside AI systems effectively. This includes specialised training in machine learning and Robotic Process Automation (RPA).

Furthermore, they recognised the need for human-centred design skills, particularly in this customer-centric industry where empathy and personalised experiences are valued. They highlighted that skill development initiatives should prioritise not only employee's technical proficiency but also cultivate opportunities for employees to be creative and develop critical thinking and emotional intelligence skills, which are essential for tasks requiring nuanced decision-making and contextual understanding, therefore assisting with identifying customer preferences and behaviours that would assist the organisation in creating better and more valuable products for their customers.

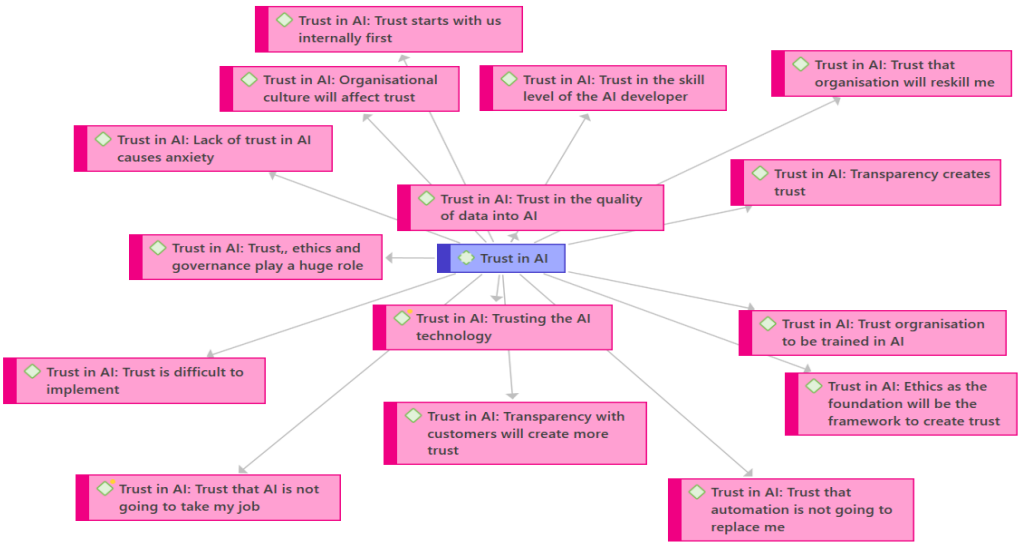


Figure 5: Codes constructs for trust

Source: Author's construction (extracted from Atlas.Ti24 Project AI ethics)

4.6 Summary of the results/findings

This exploration uncovered a nuanced understanding of the interplay between AI ethics, trust, and skill development in AI through data collected and codified from interviews with seasoned industry professionals within a South African telecommunications organisation. The participants disclosed that adopting AI technologies, notably robotic process automation (RPA) and machine learning, within their operational landscapes has brought challenges.

They credited these technologies for enhancing operational efficiency and raising customer service standards. However, participants also raised significant concerns about the ethical implications and the maintenance of trust in AI systems. They emphasised the need to establish robust ethical frameworks and strictly adhere to legal and regulatory mandates to guide responsible AI integration. Transparency and accountability fostered trust between human operators and AI technologies. Furthermore, participants underscored the importance of human oversight and expertise alongside AI, particularly in areas requiring empathy, intuition, and ethical judgment. Participants advocated for comprehensive upskilling initiatives to address these concerns and equip employees with the necessary technological competencies to navigate this

evolving landscape effectively. While recognising the significance of ethical frameworks, participants expressed reservations about their current digital maturity and adequacy in addressing the multifaceted challenges posed by AI integration.

Some argued that while ethics provide a foundational framework, achieving genuine coexistence demands a broader cultural shift within organisations, embedding ethical principles into everyday practices. Governance structures were identified as critical for ensuring responsible AI implementation, alongside considerations of legal accountability, particularly in instances where autonomous AI systems yield outcomes with ambiguous culpability. Moreover, ethics were conceptualised as guidelines and integral components of decision-making consciousness.

Participants underlined the importance of comprehensive policies encompassing skills training to develop the necessary technological competencies. These broader policy initiatives, alongside ethical considerations, were considered essential to foster effective human-AI collaboration in the workplace. This holistic perspective emphasises the inherent complexity in establishing sustainable coexistence between humans and AI, highlighting the intricate interplay of ethical, cultural, legal, and organisational factors that will shape the future of work in an AI-driven era.

CHAPTER 5. DISCUSSION OF THE RESULTS OR FINDINGS

5.1 Introduction

AI adoption in telecommunications has the potential to transform this industry. Research has found many benefits for adopting this technology, but there can be some far-reaching negative implications for the organisation considering its perceived impact on employment as processes get automated and the potential loss of brand reputation when it goes wrong.

The use of AI in telecommunications organisations is driven by the growing need for improved customer service and customer experience through improved product offerings and the need for speed, reliability, and efficiency in managing their communication networks. Hence, AI has emerged as a technology that can provide this paradigm shift in communication methodologies.

To achieve cost optimisation, BT has scheduled to slash 55,000 positions by the last decade, mainly in the UK. Many of these layoffs will happen in customer service roles as AI systems take over operations. The company comes with the announcement barely a month after Vodafone made its announcement to cut down on its staffing by 10% that will translate into 1100 working opportunities over three years (Espiner, 2023).

These announcements raise apprehensions regarding AI's influence on employment, underscoring the necessity to address ethical implications. It represents a critical juncture in the discourse on AI ethics, particularly in the workplace.

The Social-Technological Theory Framework (STS) was particularly suitable for researching the topic against the specified research objectives due to its emphasis on understanding the interaction between social and technological

factors. This unified model helped the researcher examine the complex nature of social factors, technology enhancements and ethics in forming trust and coexistence in the workforce in the era of AI technologies.

By the research objectives, this chapter interprets the critical findings of the research study and include the following:

1. To explore the influence of AI augmentation technologies in addressing job insecurity and building trust.
2. To explore how AI ethics contribute to building trust in AI technologies.
3. To explore the importance of AI skills development in fostering trust in AI technologies.

5.2 Summary of Findings

5.2.1 The influence of AI augmentation technologies in addressing job insecurity and building trust

The investigation delved into the influence of AI augmentation technologies on job insecurity and trust-building. By scrutinising the interplay between social dynamics in workplace AI implementation and technological advancements, valuable insights were gained regarding how these technologies shape human workers' perceptions of job security and trust in AI systems.

Floridi et al. (2018) emphasised the increasing significance of ethics, values, and a human-centered approach to AI design and development due to the rapid growth of AI technologies and their widespread influence on people's lives and society.

Participants acknowledged the organisation's predominantly uses AI for automating routine tasks, focusing on enhancing employee efficiency and improving customer experiences in their call centres. Robotic Process Automation (RPA) and chatbots handle basic customer inquiries, exemplified by tasks like invoice requests and personalised price plans. However, concerns

arose regarding potential job displacement and the evolving employment landscape as AI increasingly targets manual and repetitive processes in this industry especially in their call centres. These jobs at risk will disintermediate numerous jobs in emerging economies, particularly those involving repetitive physical control, motion, and information processing (Chuang, 2021). These apprehensions align with existing research findings (Bhattacharyya & Nair, 2019; Braganza et al., 2021; Rampersad, 2020), which underscore the societal instability caused by worker displacement through automated technology as a significant concern.

Participants emphasised the pivotal role of comprehensive organisational and leadership support, extending beyond management to include all ecosystem levels, in successfully implementing AI. Recognising the diversity in generational perspectives and comfort levels with technology, the importance of addressing scepticism through effective communication, education, and change management strategies was underscored. According to Choung et al. (2023a), age, education, and tech-savvy consumers were all significant factors that predict trust in AI. The propensity for allowing trust in AI appears more significant for the younger and multilingual people than the older generation. The participants mentioned that the older workers were more resistant to accepting the technology.

There was a consensus amongst the participants favouring using AI to augment human capabilities rather than replacing them entirely, advocating for a collaborative decision-making approach. Many studies have advocated for augmenting employees rather than replacing them with technology within organisational contexts (Dwivedi et al., 2021; Glikson & Woolley, 2020), hence recognising the importance of ethical considerations and justice in incorporating the human worker into the loop of technological advancements (Budhwar et al., 2022).

It became evident that AI plays a significant role in data-intensive decision-making processes, potentially outperforming humans in specific contexts such as

network optimisation. Nevertheless, participants recognised its limitations, especially in nuanced or complex situations where human expertise and judgment are indispensable. Jarrahi (2018) opines that a practical approach to manifesting the synergistic relationship between artificial intelligence (AI) and humans involves combining AI's rapid data collection and analysis capabilities with humans' superior intuitive judgment and insight.

Most participants concurred that despite AI's computational prowess, it lacks empathy and contextual understanding, highlighting the indispensability of human involvement in decision-making processes. Budhwar et al. (2022) posit expanding their existing skills, focussing on intuitive and empathetic skills. The participants underscored the necessity of human intervention, particularly in scenarios necessitating empathetic judgment, for example, in their call centres, to deal with irate customers. While AI offers computational power, it is deemed inadequate for handling extreme cases that demand nuanced human judgment.

This study further underscores the limitations of relying solely on AI for judgment calls, emphasising its comparative lack of nuanced understanding compared to humans, which may lead to suboptimal decision-making. The research aligns with previous studies advocating for a human-in-the-loop approach to automation, emphasising the augmentation of human capabilities rather than outright replacement (Katz, 2017). Envisaging an integrated workforce comprising humans and robots, the prevailing expectation is for individuals to focus on higher-value tasks such as design and integration. AI enhances human capacity, skills, and competencies, fostering efficient workplace collaboration (Dwivedi et al., 2021). The participants agreed that although the organisational strategy involves AI allocating decision-making in situations with extensive datasets, as AI advances in its capabilities, more decisions will be delegated to AI systems, potentially leading to increased automation and job redundancies.

5.2.2 AI ethics contribute to building trust in AI technologies

This objective explored the interplay between ethical concerns and technological design, which allowed for the in-depth analysis of social norms, values, and ethical principles influencing trust in AI and how these are integrated during the technological development phase.

The result of this study aligns with previous findings (Choung et al., 2023a; Floridi et al., 2018) that AI has a pervasive influence on the organisation due to the unique challenges introduced by AI, especially in the realms of potential job losses and risks introduced (bias, accountability, security, transparency), the importance of ethics is paramount and needs a human-centric approach when designing and developing these AI systems. Due to risk management being essential for this industry, the participants underscored the critical importance of establishing robust governance frameworks. The collective sentiment was that using AI comes with complex ethical and legal considerations that expose the organisation to risks, including issues beyond security, data protection and privacy, such as bias, explainability and transparency. Previous studies highlighted the three most crucial ethical AI principles: accountability, transparency, privacy, and data governance (Choung et al., 2023a). The participants concurred with these as being their top essential principles for regulatory compliance, but the primary factor identified was security.

Governance was a key criterion, with participants recognising the vital role of humans in structured oversight in ensuring responsible AI deployment within the organisation. Participants were very aware of AI's dynamic and emergent nature and the necessity for adaptive regulatory frameworks to keep pace with technological developments. Moreover, they suggested setting up a governance board to supervise the integration of AI. This underscores their acknowledgement of the significance of oversight, regulations and collaboration in guaranteeing AI applications within organisational settings. Participants emphasised aspects like managing data, respecting privacy, and adhering to requirements such as the Protection of Personal Information (POPI) Act and the General Data Protection

Regulation (GDPR) as pivotal for this highly regulated environment and already in place for the telecommunications sector necessitating a thorough strategy will be required to ensure responsible AI practises. These perspectives aligned to various research studies (Choung et al., 2023a; Floridi et al., 2018; Siau & Wang, 2020) advocating that organisations should adopt frameworks that effectively navigate the challenges of AI deployment, ensuring ethical and responsible AI development that benefits both society and individuals.

Participants further emphasised implementing guardrails through measurement checks and controls to mitigate potential risks. This underscored their proactive stance towards preventing harms associated with AI deployment and ensuring ethical use of AI systems. Gulley (2023) advocates for the cruciality of responsible AI implementation, ensuring AI technologies align with societal values and contribute to collective well-being. Moreover, the participants' emphasis on human oversight and accountability reflects their deep understanding of the limitations of AI and the indispensable role of human judgment and responsibility in AI deployment and operation. Thiebes et al. (2021) refer" to this as "human-in-the-loop" and the incorporation of proper oversight mechanisms, which would then ensure autonomy when embedding AI into applications.

Participants also advocated a cautious approach towards AI adoption, considering the dynamic nature of AI-related legal frameworks and the challenges associated with implementing ethical standards. Implementation of AI technologies is done on a use-case basis. Their cautious stance suggested further recognising the potential risks and complexities involved in AI deployment and a commitment to responsibly navigating these challenges.

Additionally, the participants' suggestion to test AI engines for biases reflected an awareness of the importance of proactive measures to address biases in AI systems and promote fairness and equity in AI deployment and operation. The Gulley (2023) study underscores that the creation and advancement of AI systems bring forth numerous ethical challenges. These include issues related to

human biases, data privacy, transparency, and their effects on unemployment and wealth distribution. Yu et al. (2023) posits that advanced AI technologies, including how AI makes decisions, the basis for these decisions, and how algorithms function, are still not transparent to users and this perceived lack of transparency in AI systems could be one of the reasons for the rejection of AI. Moreover, the participants emphasised the pivotal role of human involvement in codifying AI models, acknowledging the substantial influence of human biases on AI outcomes.

Participants underscored the importance of trust and the potential introduction of anxiety and fears within the organisation due to a lack of trust in AI. This lack of trust was attributed to several factors, with job insecurity being identified as the most important. This was further attributed to trusting the organisation's intentions around AI adoption and technology. Ambati et al. (2020) suggest that it is crucial to address workers' perspectives and assuage their fears of job displacement by fostering transparency regarding the objectives and implications of the technology. Participants concurred that once the employees started using the AI technology and realised that the technology was there to support them in the execution of their tasks and not replace them, the trust factor increased. Glikson and Woolley (2020) assert that assessing the trust levels influenced by AI accuracy and errors has consistently shown a pattern, suggesting that failures of an embedded AI negatively impact cognitive trust. The participants concurred that once the technology proved reliable, this supported the notion that the technology could be trusted and was more readily accepted.

The participants suggested developing a comprehensive framework covering human training, skills development, and implementation to implement AI technologies better while ensuring ethical practices, trust-building, and collaboration. Clear communication plans, training workshops, and open discussions were crucial for inclusivity and understanding, with an emphasis on providing direction and certainty to avoid ambiguity in AI adoption.

Overall, the insights from the discussion highlighted a nuanced understanding among participants of the multifaceted considerations and challenges associated with AI deployment. This collective understanding underscores a concerted effort towards promoting responsible and ethical AI use within the organisational context, guided by structured governance frameworks and proactive measures to address potential risks and challenges.

5.2.3 Importance of AI skills development in fostering trust in AI technologies

This objective explored both the dynamics of skill development within the workforce working with AI and the technological advancements driving AI capabilities to develop insights into how AI skill acquisition and expertise influence trust in AI systems.

The study found a prevailing emphasis amongst all participants on upskilling as a crucial strategy for workers to effectively adapt to AI technological advancements. This would assuage their fears of job security. It advocated for continuous skill improvement to ensure relevance in a rapidly changing and competitive landscape, and the organisation launched several programs to facilitate upskilling their employees. Additionally, one of the participants challenged the assumption that technology would lead to widespread job displacement, stating that historical evidence suggests that technological revolutions created more work opportunities rather than fewer. They challenged the notion of a finite amount of work. They emphasised the dynamic nature of the work landscape, aligning with the (Dhar, 2016) study, which argued that AI will create more jobs than it will destroy, supported by Manyika et al. (2017) that AI can create new occupations that do not exist today, much as technologies of the past have done. However, Huang et al. (2019) predicted that AI could become a future threat to service employment once human-machine integration occurs through “feeling AI”.

Effective communication emerged as a crucial factor for participants in alleviating fears and uncertainties among workers regarding AI adoption and the upskilling process. They highlighted that organisational transparency and clear communication helped employees understand the purpose and implications of AI in their roles. Makarius et al. (2020), citing Klein and Heuser (2008), propose that informing employees should encompass efforts to communicate, provide resources, and offer training programs. They posit the importance of managers and HR personnel to effectively communicate and assist employees in understanding AI systems before implementation, and that team members without technical backgrounds should comprehend the functionality of AI systems, the types of problems they are adept at addressing, as well as instances where AI should not be employed.

The study also highlighted the importance of providing opportunities for workers to upskill and cross-skill, emphasising training in new AI-related skills in Big Data, RPA and machine learning while ensuring a comprehensive understanding of AI's broader implications and purpose. It underscored that AI was meant to augment rather than replace human workers and that upskilling in AI-related tasks enhanced skills and productivity. Entry-level education on AI functionality and purpose was recommended to help workers gain a better understanding of AI's role in the organisation and their work context, particularly for the tasks that could be automated. Clear job role definitions incorporating human and machine elements of “coexistence” mitigated confusion and anxiety and ensured accountability within the workforce. Demonstrating the value AI brought, including its role in improving society and enhancing individual lives, was crucial for garnering support for AI adoption. A messaging approach focusing on empowerment and upskilling initiatives was advocated to garner support for AI adoption, emphasising its value in improving society and enhancing individual lives.

Participants recommend encouraging training and skills workshops to facilitate the adoption of AI technologies. These initiatives can empower employees with the knowledge and capabilities to interact with AI systems effectively. Open

debates and discussions within the organisation are also encouraged to gather diverse perspectives and considerations. The findings highlighted that employees with AI skills are more inclined to trust the technology, which is aligned with the (Glikson & Woolley, 2020) study that purports it is pivotal for the successful adoption and integration of AI and the acceptance thereof in the workplace (Siau & Wang, 2018).

5.3 Experimenting with the conceptual framework

The conceptual model was based on the Socio-Technical Theory (STT) theory that was suitable for investigating the aspects that can boost the collaboration between employees and AI in telecommunications. This study was conducted to explore and understand these factors and their perceived impact in fostering collaborative intelligence that would assist organisations in driving better economic performance and sustainability. The study proposed the integration of AI and the STT literature to provide a conceptual framework for studying collaborative intelligence. The study integrated AI literature and STT to provide a conceptual framework for understanding collaborative intelligence. This framework modelled the relationships between AI ethics, trust, AI skills, AI-employee collaboration, business performance, and organisational outcomes.

The results of the study suggested that communication, AI training and knowledge sharing within organisations led to improved AI skills among employees, which, in turn, fostered trust in AI systems and facilitated effective AI-employee collaboration. Additionally, the study found that effective human-AI collaboration enhanced business outcomes, driving business performance, competitiveness, and sustainability.

Theoretical Implications:

1. Implementing AI technology use cases must be aligned with business goals and objectives to enable the organisation to maximise the potential of AI technologies. Therefore, a comprehensive analysis of the organisation's strategy is critical.

2. Creating a theoretical framework for ethical AI development is crucial to guarantee that AI technologies adhere to organisational values and principles. This framework can guide the responsible use of AI technologies and practices, enabling organisations to maintain the transparency and trust necessary for their AI systems.
3. Studying the intricacies of human-AI collaboration and its influence on organisational performance is essential for companies seeking to enhance their integration of AI. This examination allows companies to design tactics that optimize AI's advantages, recognising the importance of harmonising human and artificial intelligence for optimal results
4. Investigating the theoretical underpinnings of collaborative intelligence is also crucial for organisations looking to enhance their AI integration efforts. By comprehending how human and AI intelligence can be integrated, organisations can devise strategies to utilise the unique strengths of both human and AI systems to drive improved outcomes and establish trust.

Practical Recommendations:

1. Organisations can create opportunities for human and AI systems to work together, promoting collaboration and fostering trust.
2. Leaders should create mechanisms for knowledge sharing about AI processes, systems, and contexts of use for integration with AI. They should also provide information about job design, strategic business goals, and AI adoption rationale, fostering two-way communication. Leaders should recognise and utilise tacit AI experience within the organisation, ensure that the organisation develops AI training programs, and support employees transitioning to an AI-human collaborative work environment, thereby establishing trust in the organisation as well as the leadership.
3. Measuring and monitoring business outcomes is crucial for assessing the impact of AI integration on organisational performance. Implementing tools and metrics to assess the economic, competitive, and sustainability impact of AI integration can provide valuable insights into the effectiveness of AI technologies in achieving organisational goals and objectives and staying aligned to the organisation’s purpose.

In conclusion, the study emphasised the importance of understanding and utilising STT in fostering effective AI-employee collaboration and enhancing business performance and outcomes. Leaders are urged to adopt these concepts to manage and adapt to the disruptive changes from adopting AI systems.

5.4 Summary

In summary, the study underscored the pivotal role of robust governance frameworks in maximising AI benefits while managing risks, as emphasised by participants. The call for comprehensive approaches, adaptive governance structures, and centralised oversight reflects an understanding of AI deployment's multifaceted ethical and legal considerations. Participants advocate for proactive measures such as implementing guardrails through measurements and controls, human oversight, and bias testing to ensure responsible AI use, revealing a commitment to navigating AI complexities responsibly and promoting fairness and equity in deployment.

Additionally, the study reaffirms the importance of upskilling, effective communication, and proactive organisational policies to foster trust in AI technologies and optimise workforce readiness for technological advancements. By embracing continuous skill improvement, clear communication channels, and proactive policy evolution, organisations can effectively navigate the challenges of AI adoption while harnessing its potential benefits. These insights offer valuable guidance for the telecommunications industry and organisations across various sectors seeking to foster trust in AI technologies and optimise their workforce's readiness for technological advancements.

CHAPTER 6. CONCLUSIONS, RECOMMENDATIONS & LIMITATIONS

6.1 Introduction

The following chapter presents the conclusions drawn from the study with a discussion that assesses the extent to which the research findings align with the predetermined research objectives and validate the research propositions. This is followed by making recommendations derived from these conclusions. The chapter concludes by examining the study's contribution to the field and offers suggestions for potential avenues for future research and limitations.

6.2 Conclusions pertaining to the research objective 1

This research objective was to examine employees' perceptions at a telecommunications company in South Africa regarding the role of organisational decisions in selecting AI adoption strategies, particularly those that would influence job security and the establishment of a harmonious human-AI workplace coexistence through trust-building.

The organisation's approach to adopting AI aligned with (Malik et al., 2021; Nam, 2019) findings address employee insecurity issues and the need for gradual and phase-wise adoption of digital interventions while upskilling and training the employees whose jobs were automated.

The study aligns with (Yu et al., 2023) that adopting AI needs alignment with overall organisational strategic goals, supported by a solid AI business case and aligned with existing business strategies. This is very much these organisation's approach in that the integration of AI is done on a use-case basis so that the risks and impacts can carefully be evaluated.

Bhattacharyya and Nair (2019) highlighted that automated technologies would replace inefficient, high-cost manual, routine explicit knowledge tasks where the 'future of work is human replacement by machines for routine work while humans will take care of intellectual work. The findings of this study recognise the inevitability of task automation using RPA and machine learning for this organisation to drive operational efficiency, cost-effectiveness, productivity, innovation and customer service delivery

Whilst the integration of AI is still in its infancy, employees have already raised significant fears about the technology and the potential to lose their jobs as more and more of their manual tasks are being automated. This leads to a big issue in trusting the technology that could eventually replace them and resisting the changes that are being introduced. Where automation has occurred, and employees have been repurposed to other business areas and transitioned to more value-added roles within the organisation, the trust factor has increased as their fears of being replaced have been alleviated. Additionally, employees who have had AI augment their current roles, especially in the customer service environment, allowing their productivity levels to increase, have seen positive benefits in employee engagement as mundane, repetitive tasks are done by AI, allowing them to contribute more meaningfully to organisational outcomes. Employees' acceptance of the technology was strengthened by the complementary roles between themselves and AI, utilising AI's strengths in processing massive datasets and generating viewpoints and their contribution to interpreting those insights, overlaying critical human skills such as empathy and judgement. These findings align very much with those of (Bhattacharyya & Nair, 2019; Thiebes et al., 2021).

The findings aligned with the literature reviewed, and the conclusions confirmed proposition 1: AI technologies that enhance human capabilities through augmentation will build trust and establish collaborative intelligence for human-AI workplace coexistence.

6.3 Conclusion pertaining to research objective 2

The study's approach was first to investigate the organisational strategy when adopting AI, the level of AI use within this industry, and the role AI ethics interlinked with trust and job insecurity will play in establishing collaborative intelligence.

Incorporating AI technology into the telecommunications industry is ushering in heightened intricacy, with participants amplifying the demand for robust ethical frameworks, and ensuring strict compliance with legal and regulatory mandates. These frameworks are essential for navigating the challenges associated with the increasing automation of workers' functions and resulting job insecurities and serves as guidelines for ethical AI practices. This is line with Choung et al. (2023a) and Floridi et al. (2018) studies, that underscores AI's significant organisational impact, emphasising the need for a human-centric ethical framework.

The study highlighted a complex relationship between ethics and the technological design of AI systems, and the participants advocated for a human-centric design approach for these systems. The participants highlighted the critical role of human oversight and agreed that AI has limitations, especially when human judgment is required. AI engines needed to be tested for biases, and proactive measures needed to be implemented to ensure the ethics aligned with corporate compliance, policies and standards.

Ethical leadership was essential to ensure that the use of responsible AI and ethical AI practises was part of the organisational fabric. Yu et al. (2023) refer to organisational culture as an essential factor in adopting technology, and this study found that culture will play a huge role in establishing human-AI workplace coexistence beyond ethics.

The findings aligned with the literature reviewed, and the conclusions confirmed proposition 2: AI ethics contribute to building trust in AI technologies and establish collaborative intelligence for human-AI workplace coexistence.

6.4 Conclusions pertaining to research objective 3

The Nam (2019) study found that technology readiness and future competence substantially affect perceived job insecurity for workers who do not have the necessary technological know-how. As Malik et al. (2021) suggested, understanding the technology enhances job security and AI acceptance. This study aligns as the organisation sees upskilling their employees in AI as a critical part of their organisation's strategy towards AI adoption, thereby addressing workers' resistance to AI with Huang and Rust (2018) advocating for addressing the negative impact of replacement by AI to be redirected into the new skill development, preparing their workforce for AI integration and role adaption. Rampersad (2020) posits that workers need reskilling and upskilling to remain relevant and avoid skills disruption (Willcocks, 2020), and is very much aligned in that the organisation provides ample opportunities for employees to become digitally astute through skills development programs that are aligned to the AI technologies used within the telco. Employees are also expected to take ownership of assuring their job relevancy through self-development. It was found that employees who have been upskilled have more trust in the organisation and are more trusting to work with the technology without the fear of relevancy, job redundancy, or job displacement which aligns to Zirar et al. (2023) that state that workers will feel uncomfortable if they do not understand how the AI system works or helps them in their roles.

The participants, however, caution that not all employees will necessarily be suitable candidates for upskilling, especially considering their current manual roles and functions, which could impact their role within the organisation. For these employees, job insecurity will remain an indisputable fact.

Overall findings aligned with the literature reviewed and conclusions confirmed proposition 3: Skills development in AI technologies will foster trust in AI technologies and establish collaborative intelligence for human-AI workplace coexistence.

6.5 Summary

In summary, the findings of this research accentuated the multifaceted dynamics of AI ethics, trust and AI upskilling to establish human-AI workplace coexistence and advocated for an overall approach that encompasses all these elements. This approach aligns with the organisational goal of leveraging AI to augment human potential instead of replacement or substitution. In conclusion, the all-inclusive organisational strategy needs to consider AI ethics, trust, and AI skills development to foster collaborative intelligence.

6.6 Recommendations

Based on the relevant literature and findings gathered from the participants in the different lines of business, there are some recommendations that can be put forward to assist telecommunications companies in managing the challenges of establishing human-AI workplace coexistence with a focus on ethics, building trust, enhancing skills and safeguarding job stability.

A robust governance framework that incorporates all the ethics principles with bespoke guidance, measurements and controls tailored to the organisation's unique circumstances is recommended. This framework would need alignment with industry standards and regulatory requirements and incorporate aspects including but not limited to transparency, accountability, fairness, and privacy.

To stay ahead of evolving regulations, regulatory and legal compliance governing AI is critical and requires robust governance mechanisms to be implemented, with a governance board that will oversee all the regular compliance audits. Risk management strategies for mitigating legal and compliance risks will be pivotal.

With proactive change management approaches, change management strategies must address organisational and cultural shifts associated with AI integration. These approaches would involve clear and transparent communication involving all stakeholders (e.g. regulators, employees and customers) and leadership support. Continuous feedback mechanisms are required to facilitate a smooth transition and mitigate resistance.

With trust and transparency identified as critical elements driving successful integration with AI, effective communication strategies will be a crucial enabler for organisations. Communication with the various stakeholders, e.g. customers, employees and regulators, must be done regularly, consistently communicating the value that AI brings to the organisation and transparent about the challenges even if there are to be job redundancies and the organisational redress for those. This would be critical for alleviating concerns and creating a supportive environment for successful implementation and coexistence.

Fostering innovation is always a key factor for telecommunications and knowledge exchanges, and best practices should be shared across industry counterparts, academia, government agencies, and civil society organisations. This collaboration is needed to share insights, learn from experiences, and keep abreast of emerging AI ethics and governance trends.

While most organisations' ultimate objectives are generating profits for their shareholders, there needs to be an absolute commitment to training, upskilling, and equipping employees with the requisite AI skills and competencies. These programs should not only be isolated to technical AI skills but also include soft skills such as adaptability, critical thinking, and ethical decision-making.

Organisational commitment to continuous research, evaluation, and monitoring of AI initiatives is crucial in evaluating their effects on employees, customers, and the wider society. This encompasses conducting longitudinal studies, qualitative assessments, and engaging in stakeholder feedback sessions to inform iterative enhancements and guarantee responsible AI integration.

In conclusion, by embracing these recommendations, telecommunications organisations can adeptly manoeuvre the intricacies of AI integration, simultaneously nurturing a culture characterised by ethical innovation, trust, and collaboration. This approach is critical to realising the full potential of AI benefits while effectively mitigating possible risks and establishing human-AI workplace coexistence.

6.7 Suggestions for further research

Based on the findings and literature review, several recommendations can be made for future research, offering the potential to deepen the understanding of the intricate dynamics surrounding AI ethics, trust-building, skill development, and job security.

Use longitudinal studies to analyse further AI adoption trends, job role evolution, organisational culture and regulatory and policy changes.

Conduct comparative analyses must be conducted across different sectors and regions to identify cross-sectoral and cross-cultural differences in adopting AI strategies, ethical practices, job security, and workplace dynamics to discover global standards and best practices.

Identifying the existing regulations, standards, policies and laws related to AI adoption by the telecommunications industry requires further research. Identifying gaps and variations in regulatory frameworks and technological and ethical standards, on the one hand, and the framework implemented by the organisation, on the other hand, can help achieve compatibility between them and align legislation and the landscape of AI ethics as it continues to evolve. AI governance frameworks need co-creation by collaborating with industry stakeholders, e.g., customers, regulators, competitors, and suppliers, to address industry-specific challenges and risks.

Examine the interaction between artificial intelligence and employees through a blend of qualitative and quantitative data analysis for a deeper understanding using a mixed methods approach.

Furthermore, implementing practical skills development and training programs (internal and external curricula) aimed at upskilling and cross-skilling employees will be essential for an organisation to prepare the workforce for an AI-driven future.

Culturally based model integration with change management practices is critical to developing an AI adoption model. Organisational characteristics and leadership behaviours that build a culture of ethics, trust, transparency, and communication so AI can integrate into business effectively would need research.

Organisations must develop robust AI risk management strategies and implement control mechanisms for AI systems for effective monitoring of any deviations from ethical standards and procedures.

AI technologies must require analysis and study for their perceived impacts on customer satisfaction, engagement, and loyalty to ensure that none of these are compromised. Introducing AI NPS to measure and monitor customer satisfaction with AI would be essential.

Through these recommendations, scholars cannot only add to knowledge but also go as far as to develop strategies that support the successful integration of AI in telecommunications without compromising job security, ethical principles, or human well-being.

6.8 Limitations

Limited research on this topic was available for the telecommunications industry, further complicating the study. Cultural awareness of AI ethics could have influenced research results. The complexity of AI involves more understanding of

interdisciplinary areas and faced with time constraints; this could not be explored in-depth. Lastly, the practical implementation of AI ethical guidelines could not be investigated, so the reliance on the data collected was limited to the sample pool and the views of ten participants.

Table 9: Consistency table: Research objectives, propositions, data collection and data analysis

RO #	Research Objectives	Proposition	Data collection detail	Data analysis method
RP	Examining the role of AI ethics in establishing human-AI workplace coexistence in a selected telecommunications organisation in South Africa			
1	To explore the influence of AI augmentation technologies in addressing job insecurity and building trust.	AI technologies that enhance human capabilities through augmentation will build trust and establish collaborative intelligence for human-AI workplace coexistence.	Interview guide questions 1,2,3,4,5,6,7,8,9,18-20,24,30	Thematic analysis

RO #	Research Objectives	Proposition	Data collection detail	Data analysis method
2	To explore how AI ethics and responsible and ethical AI contribute to building trust in AI technologies.	AI ethics contribute to building trust in AI technologies and establish collaborative intelligence for human-AI workplace coexistence.	Interview guide questions 10,11,12,13,14,15,16,17,21-23,24	Thematic analysis
3	To investigate trust and Skills in AI development to establish human-AI workplace coexistence.	Skills development in AI technologies will foster trust in AI technologies and establish collaborative intelligence for human-AI workplace coexistence.	Interview guide questions 27-30	Thematic analysis

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APPENDIX A: RESEARCH INSTRUMENT

Research Topic:
Examining the role of AI ethics in establishing human-AI workplace coexistence in a selected telecommunications organisation in South Africa

Awareness of AI and Industry Trends:
1. What comes to mind when I mention Artificial Intelligence in the telecommunications context? Is AI used in your area?
2. What is your view on Artificial Intelligence in general, especially since the launch of generative AI technologies like chatbots? (ChatGPT/Bard)

Organisational Strategy for AI Adoption:
3. What is your organisational strategy for adopting digital technologies such as AI?
4. What motivated your organisation to consider adopting AI technology?
5. What internal factors did you or would you consider when selecting AI technology or solutions?
6. What possible external factors could influence the organisation to adopt AI?

Goals and Outcomes of AI Implementation:
7. What are the specific goals or outcomes you hope to achieve by implementing AI?
8. What potential benefits could your organisation or area expect from adopting and using AI?
9. Can you think of any perceived negative impacts that AI could cause in the telecommunications industry?

Interest in Innovation:
10. Why do you think AI can drive innovation, business performance, and competitiveness for your organisation?

Policy and Regulation:
11. How are you addressing legal and regulatory requirements related to AI adoption?

Ethics, Trust, and Collaboration:
12. Does your organisation have an AI ethics framework in place, and if so, what are the key criteria?
13. Can you reflect on the current strategies or initiatives within your organisation that prioritise human-AI workplace coexistence? How effective do you find these strategies, and what improvements would you suggest?
14. What role does trust play in the successful integration of AI technologies in your work environment, and how does ethics contribute to building and maintaining this trust?
15. How do you plan to monitor and update AI systems to ensure they continue to meet ethical considerations of AI?
16. How are you addressing the ethical implications and potential biases associated with AI?
17. How are you ensuring transparency, explainability, and data privacy in relation to AI?

Digital Maturity and Management Buy-In:
18. Is the digital maturity of your company sufficiently developed for adopting and implementing AI, and why do you think so?

19. Is there sufficient management buy-in to justify the necessary investment in AI, considering the ROI challenges seen in some studies?
20. What level of investment and resources are you allocating to AI implementation or should be allocated?

Measuring Success and Monitoring AI:
21. How do you plan/would you plan to measure the success or effectiveness of AI implementation?
C2 General

22. How do you plan/would you to monitor and update AI systems to ensure they continue to meet your organisation's needs, including compliance with Trustworthy AI?

Stakeholder Involvement:
23. How do you plan to involve stakeholders, such as workers or customers, in the AI implementation process?

Challenges, Risks, and Limitations:
24. What challenges or concerns do you anticipate in integrating AI into your organisation, and what are the existing challenges if you already use AI technologies?
25. Where would you see challenges in adopting AI for your workers?

Future Roadmap and AI Impact:
26. How do you envision AI impacting your organisation's business models, operations, and processes, and what is your organisation’s roadmap for expanding or refining the use of AI within your organization?

Upskilling and Collaboration:
27. How do you plan to handle potential job displacement or workforce changes resulting from AI adoption?
28. Are you deliberate in upskilling/cross-skilling your workers before adopting AI, and how do you plan to train or upskill your workers to work effectively with AI?
29. How are you managing the collaboration between AI systems and human decision-makers?

Recommendations and Insights:
30. Based on your experiences and insights, what recommendations would you offer to organisations looking to better implement AI technologies while ensuring ethical practices, building trust, and fostering collaboration between employees and AI systems?