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Department of Business Administration

THE IMPACT OF ARTIFICIAL INTELLIGENCE ON WORKFORCE

Master Thesis

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Supervisor

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Turkish Abstract : Yapay Zeka (YZ), dünya çapında endüstrileri devrim niteliğinde değiştirmektedir işgücü dinamiklerini yeniden şekillendirmekte ve iş kaybı, gelişen beceri gereksinimleri ve ekonomik etkiler konusunda endişeler yaratmaktadır. Bu çalışma, Tanzanya ve Türkiye'den bakış açılarını karşılaştırarak YZ'nin işgücü üzerindeki etkisini araştırmaktadır. 506 katılımcının katıldığı bir anket aracılığıyla araştırma, YZ odaklı iş otomasyonu, beceri adaptasyonu ve istihdam istikrarı ile ilgili işgücü endişelerini incelemektedir.

Tanımlayıcı istatistikler, frekans dağılımları ve Ki-kare analizi kullanılarak elde edilen bulgular , katılımcıların önemli bir kısmının YZ'nin iş güvenliği üzerindeki etkisi konusunda endişe duyduğunu ve iki ülke arasında

farklılıklar olduğunu ortaya koymuştur. Tanzanyalı katılımcılar, Türk meslektaşlarına kıyasla iş kaybı ve ekonomik güvencesizlik konusunda daha yüksek düzeyde endişe göstermektedir. Ayrıca çalışma, YZ'nin rutin işleri ortadan kaldıracağı ve özellikle gelişmiş teknolojik becerilere sahip olanlar için yeni fırsatlar da yaratacağı yönünde beklentilerin olduğunu tespit etmiştir.

Çalışma, işgücü piyasası adaptasyonundaki temel eğilimleri belirleyerek ve işletmeler, politika yapıcılar ve eğitimciler için uygulanabilir öneriler sunarak YZ'nin işgücü dönüşümü konusundaki devam eden söyleme katkıda bulunmaktadır. Bunlar arasında işgücüne yeniden beceri kazandırma girişimlerine, etik YZ yönetişim çerçevelerine ve YZ kaynaklı istihdam risklerini azaltmak için proaktif hükümet politikalarına duyulan ihtiyaç yer almaktadır. Sonuç olarak, bu araştırma YZ kaynaklı bir çağda adil ekonomik geçişleri sağlamak için stratejik işgücü planlamasının aciliyetini vurgulamaktadır.

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DECLARATION

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SUMMARY

Artificial Intelligence (AI) is revolutionizing industries worldwide, reshaping workforce dynamics and raising concerns about job displacement, evolving skill requirements, and economic implications. This study investigates the impact of AI on the workforce, comparing perspectives from Tanzania and Türkiye. Through a survey of 506 respondents, the research examines workforce concerns regarding AI-driven job automation, skill adaptation, and employment stability.

Using descriptive statistics, frequency distributions, and Chi-square analysis, the findings reveal that a significant proportion of respondents express concern over AI's influence on job security, with variations between the two countries. Tanzanian respondents exhibited higher levels of concern regarding job displacement and economic insecurity compared to their Turkish counterparts. Additionally, the study finds that while AI is expected to eliminate routine jobs, it also creates new opportunities, particularly for those equipped with advanced technological skills.

The study contributes to the ongoing discourse on AI's workforce transformation by identifying key trends in labor market adaptation and proposing actionable recommendations for businesses, policymakers, and educators. These include the need for workforce reskilling initiatives, ethical AI governance frameworks, and proactive government policies to mitigate AI-driven employment risks. Ultimately, this research underscores the urgency of strategic workforce planning to ensure equitable economic transitions in an AI-driven era.

Keywords: Artificial Intelligence, Workforce Transformation, Job Displacement, Automation, Tanzania, Türkiye

ÖZET

Yapay Zeka (YZ), dünya çapında endüstrileri devrim niteliğinde değiştirmektedir işgücü dinamiklerini yeniden şekillendirmekte ve iş kaybı, gelişen beceri gereksinimleri ve ekonomik etkiler konusunda endişeler yaratmaktadır. Bu çalışma, Tanzanya ve Türkiye'den bakış açılarını karşılaştırarak YZ'nin işgücü üzerindeki etkisini araştırmaktadır. 506 katılımcının katıldığı bir anket aracılığıyla araştırma, YZ odaklı iş otomasyonu, beceri adaptasyonu ve istihdam istikrarı ile ilgili işgücü endişelerini incelemektedir.

Tanımlayıcı istatistikler, frekans dağılımları ve Ki-kare analizi kullanılarak elde edilen bulgular , katılımcıların önemli bir kısmının YZ'nin iş güvenliği üzerindeki etkisi konusunda endişe duyduğunu ve iki ülke arasında farklılıklar olduğunu ortaya koymuştur. Tanzanyalı katılımcılar, Türk meslektaşlarına kıyasla iş kaybı ve ekonomik güvencesizlik konusunda daha yüksek düzeyde endişe göstermektedir. Ayrıca çalışma, YZ'nin rutin işleri ortadan kaldıracağı ve özellikle gelişmiş teknolojik becerilere sahip olanlar için yeni fırsatlar da yaratacağı yönünde beklentilerin olduğunu tespit etmiştir.

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Anahtar kelimeler: Yapay zeka, işgücü dönüşümü, iş kaybı, Otomasyon, Tanzanya, Türkiye

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ABBREVIATIONS

AGI	:	Artificial General Intelligence
AI	:	Artificial Intelligence
ASI	:	Artificial Super Intelligence
BTOS	:	Business Trends and Outlook Survey
CRM	:	Customer Relationship Management
GDP	:	Gross Domestic Product
HRM	:	Human Resource Management
LLM	:	Large Language Models
LDCs	:	Least Developed Countries
LMICs	:	Low-or Middle Income Countries
ML	:	Machine Learning
NLP	:	Natural Language Processing
SCM	:	Supply Chain Management
WEF	:	World Economic Forum

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PREFACE

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INTRODUCTION

Artificial Intelligence (AI) is the capability of machines and digital systems to carry out tasks that generally require human intellect, including reasoning, learning, decision-making, and comprehension. As AI technologies become more advanced, they can analyze extensive datasets and perform actions autonomously, improving over time without direct programming. The term "AI" was introduced by John McCarthy, who defined it as "the science and engineering of making intelligent machines" (McCarthy, 2007). Over time, AI's potential has expanded immensely due to developments in deep learning and natural language processing. These innovations have led to cutting-edge applications such as autonomous vehicles and generative AI models, revolutionizing numerous industries. However, the rapid integration of AI into workplaces has sparked concerns regarding workforce disruptions, changes in skill requirements, and evolving job structures. AI's proficiency in managing complex tasks traditionally executed by humans is transforming labor markets, carrying significant economic and social consequences. Studies indicate that approximately 45% of jobs in manufacturing could become automated (Hawksworth et al., 2018), and a report by McKinsey suggests that by 2030, 75 to 375 million workers comprising 3% to 14% of the global workforce may need to transition to new occupational categories (Manyika et al., 2017). These projections underscore the necessity of understanding AI's implications on workforce stability, employment creation, and job displacement.

Research into AI's workforce impact presents varying perspectives. Reports by organizations such as the World Economic Forum (Di Battista et al., 2023) and McKinsey Global Institute (Bughin et al., 2018) have identified sectors most at risk of automation while also exploring new employment opportunities. However, many analyses do not comprehensively address strategies for workforce adaptation or provide detailed insight into which occupations are most vulnerable to AI-driven disruption. Additionally, there is limited research on how AI advancements will affect workplace culture, human-machine collaboration, and employee psychology in adapting to AI-enhanced roles (Maddula, 2018). Without thoroughly examining these areas, discussions on AI's impact remain vague and primarily focused on macroeconomic risks. Many studies fail to delve into how these shifts will influence individual livelihoods, society, and the broader environment.

To address this gap, this research utilizes a survey-based methodology involving a sample of 506 participants to examine how professionals perceive AI's influence on their industries. This study aims to capture participants' expectations and concerns about AI's role in job creation, job loss, and workforce experiences across different sectors. By gathering these insights, the research will provide a deeper understanding of employee attitudes toward AI, contributing to the broader discourse on AI's workplace implications.

CHAPTER ONE

ARTIFICIAL INTELLIGENCE

1.1. Artificial Intelligence Concept

Artificial Intelligence (AI) is a set of technologies that emulate human cognitive abilities, including reasoning, learning, decision-making, and language comprehension. AI-powered systems differ in complexity, spanning from simple rule-based programs to advanced machine learning architectures capable of analyzing extensive datasets, identifying trends, and generating autonomous decisions without continuous human intervention (Russell & Norvig, 2020)

AI can be categorized into three primary types based on its capacity to process data and execute diverse tasks:

Narrow AI (Weak AI): This type of AI is built for defined functions and runs within a confined framework. It functions efficiently in pre-set applications but lacks the ability to generalize knowledge beyond its programmed scope. Common examples include virtual assistants like Google Assistant and Siri, fraud detection systems, and content recommendation engines on in streaming platforms. A subset of Narrow AI is Machine Learning (ML), which enhances a system's ability to detect data patterns and refine its performance autonomously over time, minimizing the need for manual adjustments (Khan, 2023).

Artificial General Intelligence (AGI): AGI represents a theoretical milestone in AI where machines would possess intellectual capabilities on par with human cognition. Unlike Narrow AI, AGI would be able to understand, reason, and apply acquired knowledge across diverse fields without predefined programming. While AGI remains conceptual, research in deep learning and neural networks is progressively moving AI toward greater adaptability and independent problem-solving (Goertzel, 2007).

Artificial Super Intelligence (ASI): ASI denotes a hypothetical phase in AI evolution where systems would surpass human intelligence in every aspect, including logical reasoning, creativity, and emotional cognition. This level of AI could revolutionize industries, governance, and decision-making processes. However, it raises ethical concerns, as outlined in *Superintelligence: Paths, Dangers, Strategies* by

Nick Bostrom (2014), which discusses the potential risks of AI acting beyond human oversight (Thorn, 2015).

1.2. Core AI Sub-fields and Applications

AI consists of several branches, each addressing different technological challenges and applications across various domains:

Machine Learning (ML), ML enables computers to process and analyze data, recognize complex patterns, and make predictive decisions. It is widely implemented in finance, healthcare, and cybersecurity (Russell & Norvig, 2020).

The three main types of ML include:

~ Supervised Learning: Uses labeled datasets to train models in recognizing input-output relationships.

~ Unsupervised Learning: Identifies underlying structures in raw data, often applied in clustering and anomaly detection.

~ Reinforcement Learning: Involves AI agents improving their actions through trial and error, commonly used in robotics and real-time decision-making (Mahesh, 2020).

Deep Learning, As a sub field of ML, deep learning utilizes multi-layered artificial neural networks to process vast amounts of data. This technology underpins breakthroughs in facial recognition, speech processing, and genomics (LeCun et al., 2015).

Natural Language Processing (NLP): NLP enables machines to analyze, understand, and generate human language through techniques like tokenization, sentiment analysis, and machine translation. It is the backbone of chatbots. By integrating statistical models and linguistic frameworks, NLP improves how AI interacts with humans (Fanni et al., 2023).

Generative AI, is a technology that leverages deep learning to generate original content (e.g words, images) in response to complex and varied prompts (e.g languages, instructions , questions) . A popular example of a generative AI driven model is ChatGPT, developed by OpenAI, its capable of understanding complex and varied human languages and generate rich and structured human-like responses (Lim et al., 2023).

Artificial Intelligence is transforming various industries by improving automation, optimizing decision-making, and increasing efficiency, some of those sectors benefiting from these advancements include:

Computer Vision, AI-driven computer vision systems enable machines to analyze and interpret visual data, leading to advancements in several applications such as facial recognition algorithms which allow for enhanced facial features recognition, heightened security systems and authentication, in medical imaging, AI can assist in diseases diagnosis by interpreting medical images (i.e X-rays & MRI's) allowing for early detection and treatment (Matsuzaka, Y., & Yashiro, R. 2023).

Robotics, The integration of AI into robotics has led to the development of machines capable of performing tasks autonomously, playing a crucial role in industries like logistics, helping streamline warehouse operations by efficiently sorting and transporting products, minimizing human-labour costs and risks factor as well as reducing operational costs. In manufacturing, AI-enabled robots are capable of performing precision tasks such as assembly and quality control, boosting efficiency, product quality and production (Darapureddy et al., 2021)

Speech Recognition, AI has transformed speech recognition, enabling machines to understand and process human language. Virtual assistants like Siri and Alexa interpret and respond to user command improving productivity and accessibility for instance hearing-impaired individuals can access these benefits as opposed to prior. Models like Google's Gemini allow for real-time transcription as well as processing, summarizing and formatting of transcripts which can benefits sectors like journalism, legal, and Education by reducing time waste, improving accuracy and ensuring faster turnaround (Pahwa et al., 2020).

Expert Systems, AI based systems emulate human decision-making to provide insights and assist in complex problem-solving. Expert systems use knowledge representation to perform tasks that normally need human expertise and are built on predefined knowledge about a field of expertise. For instance, In finance , AI can help analyze market trends and economic indicators to predict financial outcomes , In legal and medical fields AI can analyze dataset and provide applicants with relevant information and different possible approaches this can help with accurate and efficient responses (Krishnamoorthy & Rajeev, 2018) .

1.3. The Evolution of Artificial Intelligence

The concept of AI took formal shape in the mid-20th century, with foundational work by British mathematician Alan Turing. In his landmark 1950 paper, *Computing Machinery and Intelligence*, he posed the question, "Can machines think?" This inquiry sparked discussions on machine capabilities in problem-solving using available information, leading to the famous Turing Test a method for evaluating machine intelligence (Turing, 1950). While Turing's work was influential, the field of AI formally emerged at the Dartmouth Conference in 1956, a significant gathering led by computer scientist John McCarthy alongside colleagues such as Marvin Minsky and Claude Shannon. This event marked the first use of the term Artificial Intelligence and provided an ambitious road map for the discipline, aiming to develop machines capable of mimicking human intelligence and performing complex tasks independently. The Dartmouth Conference is widely regarded as a milestone, serving as stepping stone for extensive research in AI (Nilsson, 2012).

1.4. Phases of AI Development: Summers and Winters

Throughout the following decades, AI research fluctuated between periods known as "AI Summers" and "AI Winters." AI summers refer to phases of optimism and significant investments in AI research, while AI winters mark downturns in funding and interest, usually due to unmet expectations or technical limitations (Kautz, 2022)

The first AI summer occurred in the 1960s, fueled by advances in symbolic AI and problem-solving programs. However, as early enthusiasm waned and challenges such as limited computational power and unrealistic expectations emerged, AI research entered its first winter in the 1970s, significantly slowing progress (Kautz, 2022).

The 1980s saw renewed interest in AI, spurred by increased computing power and the development of expert systems. These systems used rule-based knowledge to make specialized decisions, achieving notable success in various fields. For instance, MYCIN, an early expert system developed at Stanford University, used backward chaining to diagnose bacterial infections and recommend antibiotics. MYCIN employed hundreds of rules in its knowledge base and could explain its reasoning process (Shortliffe, 2012). However, high costs and limited scalability led

to another AI winter in the late 1980s and early 1990s. A major breakthrough in AI occurred in the 2000s with the rise of machine learning and deep learning, a subset of AI that uses artificial neural networks to simulate human cognition. Deep learning's ability to process vast amounts of data led to advancements in natural language processing, image recognition, and predictive modeling. Notably, Google DeepMind's AlphaGo demonstrated the power of reinforcement learning by defeating world Go champion Lee Sedol in 2016, a milestone showcasing AI's ability for complex problem-solving (Chang et al., 2016). In the 2010s and beyond, AI advancements accelerated with the development of generative models from companies such as Google's Gemini and OpenAI's ChatGPT 4.0. These systems can generate coherent text, answer complex questions, perform multimodal tasks, debug code and enhance language translation. They offer customization options for businesses, allowing integration into specific needs, such as CRM systems to enhance customer service performance (Javaid et al., 2023). Looking forward, AI is expected to play an increasingly central role across multiple industries, including healthcare transportation, finance, and manufacturing. For instance, OpenAI, originally a non-profit startup, has shifted towards a profit-driven model due to major investments from companies like Microsoft and commitments to investment returns from fund acceptance. In 2024, Open AI secured $1 billion from Thrive Capital, with the potential for another $1 billion investment the following year based on revenue targets. Collectively, Open AI has raised $6.6 billion, reaching a valuation of $157 billion (Hu & Cai, 2024). Concerns have been raised about the shift from Open AI's original mission, as prioritizing profitability over ethics could set new industry precedents.

1.5. AI and the Future of Artificial General Intelligence

Extensive research by Sutton (2020) defines AI as a fully controlled agent, capable of adapting to its environment while operating with limited knowledge and resources. This definition aligns with current AI application and future aspirations, particularly in Artificial General Intelligence (AGI) also known as Non-Axiomatic Reasoning Systems. AGI refers to general-purpose intelligent systems designed to function similarly to the human mind, enabling them to solve problems across multiple domains. These "thinking machines" are envisioned to possess self-learning capabilities, allowing them to perform tasks beyond their initial programming (Wang et al., 2018).

A recent collaboration between Cisco and a research team (Hammer et al., 2021) led to the development of a scalable system capable of predicting and detecting anomalies from raw video feeds while responding to real-time user queries. The system's architecture enables deployment in traffic monitoring, with applications extending to autonomous driving and object categorization. Such innovations could impact ride-sharing, delivery services, and smart cities, raising concerns over job displacement and workforce restructuring.

Further research by Baum et al. (2019) suggests that the development of AGI will have a profound impact on the trajectory of human civilization, potentially reshaping global economies, job markets, and societal structures.

CHAPTER TWO

ARTIFICIAL INTELLIGENCE AND WORKFORCE

Businesses are progressively integrating artificial intelligence across their workflows, integrating computational learning and semantic analysis to tackle complex challenges and strengthen overall value creation. AI technologies are being applied in various sectors, refining workflows and accelerating innovation. Under this heading, the applications of artificial intelligence in the business world and its effect on workforce will be discussed.

2.1. AI in Business

2.1.1. AI in Customer Service

AI-powered models, such as OpenAI's ChatGPT-4, are transforming customer support by providing intelligent, scalable, and highly responsive assistance. These models minimize wait times, personalize interactions, and enhance service delivery. With AI-driven platforms like ChatGPT, businesses can offer uninterrupted 24/7 customer support while handling multiple inquiries simultaneously, significantly improving response efficiency. Furthermore, ChatGPT-4 retains contextual awareness from prior interactions, enabling more customized and meaningful engagements with users. In the e-commerce sector, companies like Amazon utilize AI to generate personalized product recommendations aligned with customer preferences (Law, 2024).

2.1.2. AI in Marketing and Sales

AI enables in-depth analysis of consumer patterns, allowing businesses to develop more effective marketing campaigns. By leveraging data-driven consumer insights, AI models analyze behaviors such as browsing history, purchase patterns, and social media activity, enhancing audience segmentation and engagement strategies. Platforms like Salesforce Einstein 1 empower companies to identify sales opportunities and create personalized customer experiences (Wright & Awati, 2024). Additionally, AI-driven solutions such as Microsoft Dynamics 365 AI and HubSpot utilize past sales data, market trends, and behavioral insights to forecast sales performance. These predictive capabilities help organizations manage demand,

optimize target-setting, and allocate resources more efficiently (Lavanyakr01 et al., 2024).

2.1.3. AI in Maintenance

Artificial intelligence enhances real-time equipment monitoring by analyzing critical parameters such as temperature, pressure, and performance anomalies to detect early warning signs of potential failures. Industrial giants like Siemens leverage AI to optimize maintenance schedules, refine operational workflows, and prevent unplanned downtime (Jonathan, 2024). Additionally, AI strengthens SCM by automating inventory control, ensuring stock levels are replenished efficiently, and mitigating the risk of inventory surplus or shortages. This results in better utilization of storage space and resources (Helo & Hao, 2022).

2.1.4. AI in Logistics

AI-powered logistics systems dynamically optimize delivery routes by assessing real-time conditions such as traffic congestion and weather disruptions, leading to cost-effective transportation planning. Logistics leaders like DHL employ AI-driven route optimization software to streamline shipping operations (Facey, 2023). According to a study conducted by Jorge et al. (2022) for McKinsey, AI has the potential to reduce errors in SCM by 20% to 50%, while simultaneously cutting warehouse expenses by 5% to 10% and administrative expenses by 25% to 40%.

2.1.5. AI in Human Resources

AI is revolutionizing HRM by automating recruitment processes, enhancing resume screening, and refining candidate selection. AI-driven tools analyze job applications, extract relevant details, and match applicants to roles that complement their qualifications. Global companies, including Unilever, collaborate with AI-based behavioral assessment firms like Pymetrics to evaluate job seekers via video interviews. These AI systems evaluate candidates on key attributes such as job-related competencies, communication effectiveness, and emotional intelligence, enabling more precise hiring decisions (Hu, 2023).

2.2. AI in The Workplace: Trends and Current Applications

The adoption of AI in business operations has grown increasingly into one of the most disruptive technological trends, impacting various sectors such as manufacturing,

sales, customer services and human resources. Adoption trend in AI are largely driven by the need for process optimization and productivity gains. Key trends include;

Automation, where AI-driven models process extensive datasets to detect trends, and anomalies, enhancing informed decision-making and enhanced process automation. Moreover, AI models that learn and adapt from data are often more effective at problem-solving than human beings, enabling organizations to minimize operational expenses and limit human-related errors, while optimizing accuracy and flexibility. For instance AI-powered system like BluePrism automate repetitive data-entry processes , drastically reducing time errors and costs for companies (Chappell, 2017) .A McKinsey report (Manyika, et al., 2017) estimates automation could raise productivity growth globally by 0.8-1.4% annually. They also suggest that up to half of today's work activities, worth $15 trillion in global wages, could be automated by 2055, although this could happen up to 20 years earlier or later depending on wider economic factors.

In Finance, AI adoption has accelerated as systems analyze vast datasets to detect patterns, forecast market trends, and generate actionable insights, helping businesses make informed marketing choices and optimize investment strategies (Cao, 2020).

AI is also transforming Human resource by optimizing recruitment, employee management and performance evaluation. AI-powered tools enable companies to improve upon their candidate sourcing, streamlining screening processes, analyze and interpret interviews, and assist in making data-driven hiring decisions (Johansson and Herranen, 2019). Similarly, companies like LinkedIn offer AI-assisted features that provide more actionable insight helping recruiters find and match candidates faster. There is actionable proof that AI adoption has steadily seen growth across multiple sectors as businesses recognize its capability in driving efficiency, innovation as well as profitability. A 2024 Mckinsey Global AI survey report by (Singla et al., 2024) reveals a notable increase in AI adoption across industries, with one-third of respondent reporting that their organizations use Gen AI in at least one business function. Additionally, 40% of these organization expect to increase AI investment, and 28% indicate that Gen AI is already a topic on their board’s agenda. In the United States, the Census Bureau’s biweekly Business Trends and Outlook Survey (Census.gov, 2024) highlights national trends in AI adoption. According to the survey, the overall AI adoption rate remains relatively low, with only 5% of businesses

currently using the technology (see Figure 1). However sector-specific analysis, reveals higher adoption rates in fields such as Information and Professional,Scientific, and Technical Services (see Figure 2).

The data for Figure 1 was derived by analyzing AI adoption rates among businesses, through the national datasets Business Trends and Outlook Survey (BTOS) (Census.gov, 2024), filtering and cleaning entries to ensure clear responses. The results are presented in a horizontal bar chart, with percentage labels highlighting that, over the last two weeks, approximately 5% of businesses reported using AI, while 84.2% did not, and 10.8% were unsure.

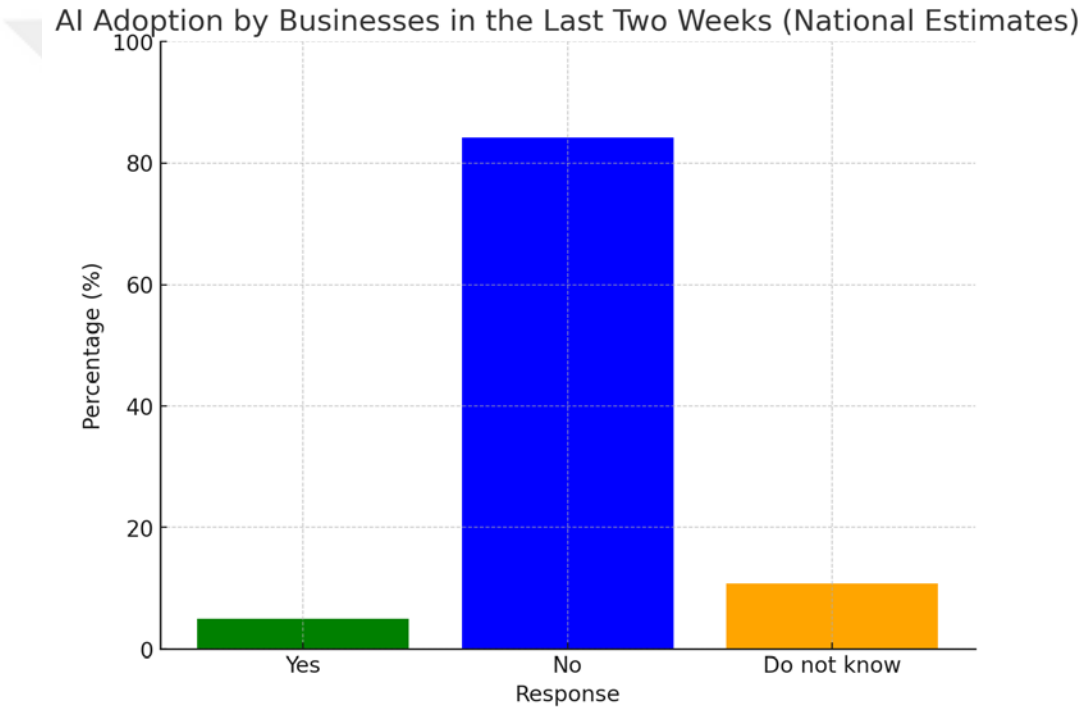
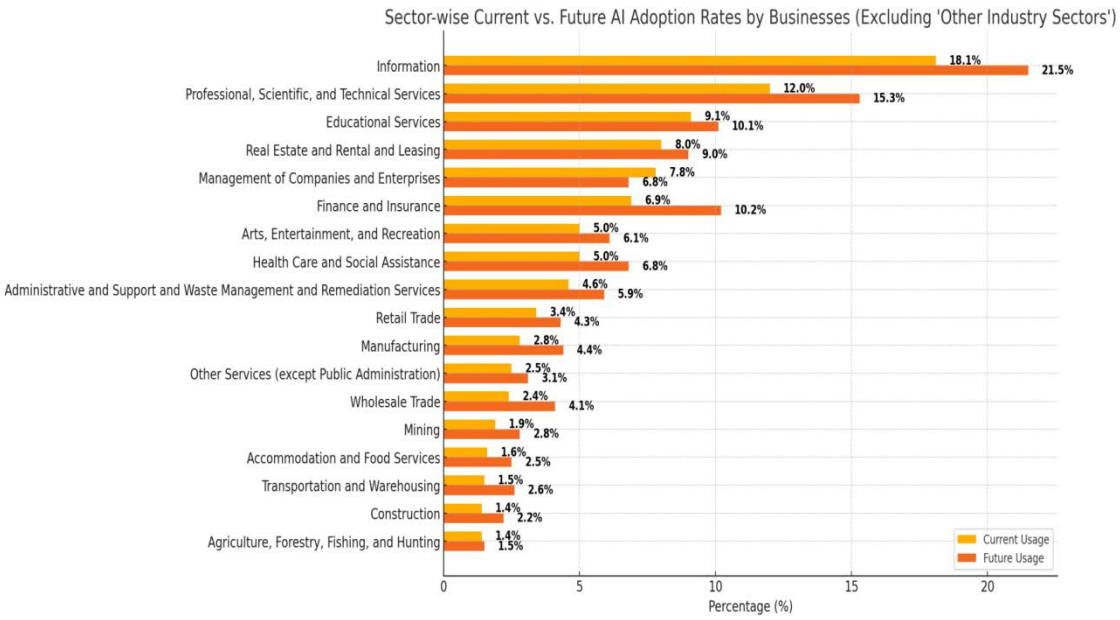


Figure 1. AI Adoption by Businesses Based on U.S. Census Data

In the Figure 1, the bar graph showcases AI adoption by businesses based on national response estimates from the U.S census Bureau's Business Trends and Outlook Survey, with data collected from 09/11/2023 to 10/20/2024.

For figure 2, a similar approach was applied to examine sector-specific AI adoption rates using data from the AI supplement sheet of the U.S census BTOS. After filtering and cleaning for clarity, a horizontal bar chart was created, displaying current adoption rates alongside projected adoption rate for the next six months, with percentages labels for each bar. The analysis shows that AI adoption is highest in Information and professional services where 18% and 12% of businesses, respectively, report current AI use. Within these sectors, adoption rates are expected to grow further in the next six months based on survey responses. However, AI adoption varies significantly by sector, with industries like construction and agriculture reporting adoption rates as low as 1%, indicating that anticipated job displacements may impact white-collar roles more than those in these lower-adoption sectors.

Figure 2. Current vs. Projected AI Usage by Sector (Next 6 Months)



In the Figure 2, the bar graph illustrates current versus projected AI usage by sector (next 6 months) , based on an analysis of data from the U.S Census Bureau's Business Trends and Outlook Survey AI Supplement data collected from 12/04/2023 - 02/25/2024.

2.3. AI and Employment: Optimistic vs. Pessimistic Outlooks

AI's role in employment sparks a multifaceted debate, on one hand, technological advancements ranging from computational learning algorithms to robotics, are reshaping businesses operations, tasks executions, and employee-

technology interactions, driving greater efficiency and productivity. However, the widespread adoption of AI also raises concerns about significant job loss, growing inequality and eroding employment stability. These potential shifts have fueled discussion among researchers, policymakers and economists about the future implications of AI in the workforce.

2.3.1. Positive Views On AI Adoption

Historically, technological progress has led to net job creation. For example, the rise of the internet led to the elimination of certain jobs while giving birth to entirely new sectors such as e-commerce. AI is anticipated to follow a similar pattern. A WEF report (Di Battista et al., 2023) estimates that projected job creation for 2023-2027 will increase by 30-35% or around 1.4 million jobs, in fields such as Data Analysis, Big Data, Business Intelligence, and Network Professionals, driven by advances in frontier technologies. Additionally, demand for AI and machine learning Specialists is projected to grow by 40% adding approximately 1million jobs as these technologies drive industry transformation. The WEF report also anticipates a 31% rise in demand for Information Security Analysts, resulting in 0.2 million new positions as response to increased needs in encryption and cybersecurity. The report, surveying 803 companies across 27 industry clusters and 45 economies worldwide, indicates that AI adoption for 2023-2027 is projected at 74.9%, with robots and non-humanoid systems at 51.3%, and text, image and voice processing at 61.8%. This demand suggests a shift toward a more knowledge-based economy, with analytical thinking skills among the most sought by employers (Di Battista, et al., 2023).

2.3.2. Negative Views On AI Adoption

The primary concern is that AI and automation may disproportionately disrupt workers in low-skilled, routine jobs, leading to widespread unemployment. This is notably evident in industries such as manufacturing, transportation, and retail where robots and automated systems can handle repetitive tasks more efficiently than humans. By 2030, projections indicate that around 52% of jobs in manufacturing and 45% in retail could be automated (Hawksworth, et al., 2018). This displacement could exacerbate existing economic inequalities, especially in regions heavily dependent on industries vulnerable to automation. Additionally, AI-driven automation may widen income gaps, as wealth become concentrated among those with skills necessary to

work alongside AI systems. Rapid technological advancements may further hinder workers' ability to transition to new, higher-skilled roles, increasing long-term unemployment and potentially lowering the standard of living. A 2023 WEF survey identified the fastest-declining roles as administrative and office support roles, such as bank tellers and postal clerks (Di Battista, et al., 2023). Beyond economic implications, there are ethical concerns about AI's role in hiring, firing and promoting decisions. Entrusting career-defining decisions to systems susceptible to systemic flaws could lead to discriminatory practices, further marginalizing vulnerable groups (Schellmann, 2024). Moreover, AI integration may diminish workers' rights and bargaining power, raising concerns about data privacy, surveillance. Continuous monitoring of employees' productivity or behavior through AI systems may erode trust between employers and workers, resulting in a fragmented, insecure staff with low morale, lower output, and hesitancy to invest in skills- development. These issues, coupled with the psychological toll of job security, may lead to anxiety, isolation, and a loss of purpose impacting workers and their families (Aloisi & Gramano, 2019)

2.4. The Role of Automation in Job Creation and Destruction

Automation refers to the use of technology, including AI, robotics, and software to perform tasks with minimal human input. Historically, automation was primarily prominent in manufacturing through industrial robots and assembly lines. However, it now spans numerous sectors, driven by advances in AI, robotics, and machine learning. Automation has profoundly transformed industries worldwide, with machines increasingly taking over tasks once performed by humans. This shift triggers significant changes in labor markets, creating new job opportunities while simultaneously rendering others obsolete. Historically, technological innovations have always influenced employment. The Industrial Revolution in the 18^{th} and 19^{th} centuries, driven by mechanization in sectors like textiles and manufacturing, caused considerable changes in employment patterns. Many manual jobs were lost during this period (Mokyr and Strotz, 1998). This sparked fear and protest over job losses, a notable example is the Luddites-protest in the 1800's where English textile workers destroyed machinery, sent threatening letters to employers, and even attacked employers magistrates and food merchants as a form of protest against the introduction of new machinery in the wool industry, which they perceived as detrimental to their livelihoods (The National Archives, n.d.). Despite such opposition, Industrialization

ultimately generated new industries, resulting in a net increase in employment. A parallel can be drawn between the Industrial Revolution and the current automation revolution. In both cases, automation, whether through mechanization or digitization, transforms industries. These transitions may spur the creation of new roles but can also lead to job displacement, especially when the workforce needs time to adapt (Autor & Salomons, 2018).

The most immediate and visible effect of automation is the destruction of jobs, particularly those that involve repetitive and routine tasks. Many low and middle skill jobs are at risk. A McKinsey report by (Chui, et al., 2016) which surveyed over 2,000 work activities across more than 800 occupations, nearly one-fifth of the time spent in U.S workplaces involves performing physical activities or operating in a predictable environment. In manufacturing, for instance, tasks such as packaging products or loading materials, which are highly predictable, represents about one-third of workers' total time. Due to this predictability, approximately 59% of all manufacturing activities could be automated. Other prominent sectors facing high automation potential include Retail and Services, where automated checkout systems and inventory management tools have increased the technical feasibility for automation. Across all these sectors low-earning, low-skill workers are especially vulnerable to job displacement. For example, in Food services employees who cook earn an average of about $10 an hour, a role in particularly highly susceptible to automation.

Despite the risks of job displacement, automation also contribute to job creation. According to a 2020 World Economic Forum report by (Russo, 2020) found while 85 million jobs are expected to be displaced by automation by 2025, 97 million new jobs could emerge in roles better suited to the new division of labor between humans, machines, and algorithms. This trend particularly affects sectors requiring technical skills and knowledge. By 2025, skills such as analytical thinking, creativity and flexibility will be among the most needed, while roles like data scientists, AI specialists, and cloud computing engineers are among the top emerging professions. Additionally, automation often complements, rather than entirely replaces human labor. Machines can handle repetitive or hazardous tasks, freeing humans to focus on more complex, creative and interpersonal roles. This shift can lead to productivity gains, increased economic output and overall growth, which in turn can create more jobs. According to PwC report (PwC, 2020) the global economy could grow by $15

trillion by 2030 all due to AI and automation. Moreover, a McKinsey Global Institute reports by (Jacques Bughin, et al., 2018) highlights that automation will create job opportunities in industries like health care , particularly as the demand for caregiving services grows as the population ages.

2.5. Artificial Intelligence and Skills Transformation: New Jobs and Skills

Artificial intelligence is transforming the global workforce at an unprecedented pace. While there are concerns about job displacement in certain industries. AI is also creating new opportunities, demanding new skill sets and reshaping the structural landscape of most industries (Mäkelä & Stephany,2024). A 2017 Mckinsey study by (Manyika et al., 2017) estimated that by 2030, 75 million to 375 million workers (3 to 14 percent of the global workforce) will need to switch occupational categories. Moreover, all workers will need to adapt, as their occupations evolve alongside increasingly capable machines. The rise of AI has generated a wide array of new roles and forced adaptability for many. For example, in marketing and sales, professionals now need to understand coding and have knowledge of AI-driven tools like predictive analytics. Trading based on intuition has largely become obsolete, as banks now seek math-minded individuals to build and manage models, algorithms and software for more informed decision-making. This sentiment is echoed on wall-street, with reports indicating that major firms have shifted from hiring brokers and bankers to technology professionals (i.e coders, engineers and data analysts) to work in trading and investments banking departments (Kang, M., 2020). In an interview with Bloomberg, Stuart Riley, the global head of operations and technology for Citigroup, said that" the shift towards technologists rather than bankers reflects broader industry trends". Major banks have been allocating billions of dollars toward technology development and implementation. Citigroup alone spends around $8.5 billion, or 20% of its annual expenses on technology each year. Riley added "The delineation between traders and technologists in markets is disappearing" (Kang, M., 2020).

In other technology-driven sectors, roles such as data analysts, database and network professionals, and data engineers have become crucial in supporting AI systems. Moreover, AI-driven innovation is spurring the creation of entirely new fields and a revival in certain sub-sectors. Nuclear energy, for instance, has experienced renewed interest from major tech companies like Microsoft and Amazon, in part to address their growing energy demands for data centers used in AI applications.

Research from Electric Power Research Institute (2024) indicates that each ChatGPT query consumes about 2.9 watt-hours, compared to 0.3 watt-hours for a traditional Google search. As of August 29, 2024 ChatGPT announced that it has 200 million weekly active users (Babu & Koyyur, 2024), If each users submits around 10 questions weekly, this results in roughly 2 billion queries per week or approximately 285.7 million daily queries, consuming a staggering 828,571.43 kilowatt-hours of energy. To put this into perspective, recent data from U.S. Energy Information Administration (2023) shows that the average U.S households uses about 29 kilowatt-hours per day. Thus, the energy used by these queries could power around 28,571 households. over a year. Consequently, there is a strong incentive for these companies to invest in cost-effective energy sources, with nuclear energy emerging as a key option. Microsoft, for example has inked a deal to revive the Three Mile Island nuclear plant, exclusively purchasing all 800 megawatts of its carbon-free energy (Amy, 2024). This initiative is expected to create jobs during both the construction and operational phases and may renew interest in roles like nuclear engineering, which according to recent U.S. Bureau of labor statics data, is projected to decline by 1% from 2023 to 2033. Additionally, data centers contribute significant tax revenue to local economies. For instance, Loudoun County, in northern Virginia receives nearly $600 million annually from data-centers revenue (Fanger, 2024).

Regarding skills, AI excels at automating routine tasks, but stills lags behind human creativity and emotional intelligence. Reports from the WEF highlight that creative thinking skills are increasingly important as workplace tasks become more automated increasing automated. Creative fields such as arts, design and research are expected to grow as AI enables humans to pursue more complex and imaginative tasks. Similarly, the increasing prevalence of AI in the workplace necessitates a solid foundation in digital literacy. Workers across all sectors must understand how to work with AI-powered tools and platforms. Cognitive skills remain essential, especially in fields like Government, media, entertainment and Sports, which have seen rising AI adoption. In the film industry, AI is used for tasks ranging from script analysis to post-production. Tools like ScriptBook use natural language processing to analyze scripts, predict box office success and offer insights into plot and character development. During filmmaking, AI enhances visual effects, while in post-production, AI significantly reduces the time and cost of tasks such as object removal, scene

stabilization, and sound design. However, these formulaic processes may lack the creativity and originality that attract audiences to the cinema. Evidence of this is seen in the recent drop in box office sales for the Marvel movie The Marvels, which had the lowest debut for any Marvel Cinematic Universe Film (MCU film) grossing $47 million in its opening weekend, well below initial projections of $75 million (Mercuri, 2023). Marvel a billion dollar franchise has seen fall in its box office draws credited in part by a focus on quantity rather than quality leading to rushed script writing, bad visual effects and generic plot (Dockterman, 2023). This trend suggests that cognitive skill remain in demand in fields requiring complex decision-making, leadership, and effective communication.

2.6. Ethical and Social Implications of Artificial Intelligence in Employment

Artificial intelligence (AI) has emerged as a transformative force across various industries, reshaping global labor markets and revolutionizing the nature of work. Currently, AI technology offers significant benefits such as increased efficiency, innovation and productivity gains driven by process automation. However, these advantages come with profound ethical and social implications. From job displacement and algorithmic bias to exacerbating inequality and privacy concerns, AI introduces complex challenges that may widen existing societal inequalities and create new ethical dilemmas (Capasso et al., 2024).

One of the most pressing concerns surrounding AI in employment is the potential for widespread job displacement as AI-driven systems automate tasks traditionally performed by humans, certain job categories face increasing risk. Roles in manufacturing, logistics customer services, data-entry and transportation are particularly vulnerable (Frey & Osborne, 2017). Estimates by (Hawksworth et al., 2018) are by 2030s shares of existing jobs in these sectors could potentially be automated by around 52% and 45% respectively. For example a report by (Kachwala, 2024) for Reuters reports that Uber plans to expand its partnership with Waymo, a subsidiary of Alphabet Inc, to bring autonomous ride haling services to Austin Texas, and Atlanta and Georgia by early next year. This introduction could be detrimental to employment prospects for taxi drivers, particularly given that Uber's inception in 2010 significantly disrupted the taxi service industry. Uber classifies its drivers as independent contractors, meaning they are responsible for their own expenses, including vehicle maintenance and fuel and are not eligible for most labor protections

such as health coverage. A survey conducted by (Olszewski, 2021) for Workers Justice Project among 500 app-based couriers found that around 42% reported experiences of non-payment or under-payment, and 49% reported been involved in an accident or crash during deliveries, with 75% of them reporting they had to pay for medical care with their own personal funds . Additionally, The Globe and Mail reports show that workers are often at the mercy of the Uber app monitoring systems that dictates speed,behaviour and ultimately their wages (Subramaniam, 2023). All this compounds to the fact that since Uber was founded it has resulted in taxi drivers struggling in term of reduced earnings (Berger, et al., 2018). And as previous interview from the company's CEO Dara Khosrowshahi, segments of the company services like Uber Eats are not profitable (Barro, 2020). Given that segments of Uber Eats, remain unprofitable, one might argue that the partnership with Waymo is profit-driven and may exacerbate issues like job insecurity and income instability as these companies pursue profit maximization (Barro, 2020).

AI systems are not immune to bias, as they rely on historical data that may contain societal in-equalities. In employment, algorithmic bias can lead to discriminatory hiring practices, performance evaluations, or salary determinations. For instance, AI systems used in recruitment may unintentionally favor certain demographics, perpetuating existing gender, racial or socioeconomic disparities. Amazon discontinued AI-based recruitment tool after it exhibited bias against female applicants, largely because the tool was trained on data reflecting a male-dominated applicant history. In effect, Amazon's system taught itself that male candidate was preferable (Dastin, 2018). Similarly, AI systems used in firing and promotion decisions are prone to systemic flaws, potentially reinforcing existing biases, discriminatory practices and further marginalizing vulnerable groups (Schellmann, 2024). In privacy and surveillance AI technologies are been used to monitor and evaluate employee performance. Employers increasingly monitor keystrokes to analyze productivity in real time. While these systems can enhance efficiency, they also raise serious privacy concerns. For instance, advancements in biometric systems has led to Emotional AI, capable of sensing, reading, monitoring and evaluating the affective state of a worker (Capasso et al., 2024). These emotion-recognition tools signal a far more invasive disciplinary gaze, a survey (Mantello et al., 2023), found out that these tools lead to heightened stress and anxiety among disadvantaged

ethnicities, gender and income class. The constant surveillance enabled by AI can lead to an erosion of trust between employees and employers, fostering a work environment where workers feel constantly scrutinized, infringing on worker's rights to privacy and autonomy, further raising ethical concerns about the balance between efficiency and employee dignity.

Artificial intelligence (AI) transformation of the workplace also demands a reevaluation of the traditional social contract between employers and employees. With AI taking over routine tasks, concern is rising about potential loss of purpose and fulfillment for displaced workers. Society must consider adaptive strategies, such as implementing new educational programs, lifelong learning opportunities, and supportive government policies for displaced workers. Government and businesses should collaborate in creating strategy that promote re-skilling of workers to ensure they remain competitive in an AI-driven labor market. Businesses should invest in corporate training programs. Many firms recognize that their employees need to develop new competencies in areas like data analysis, machine learning and programming. For example, Amazon has committed to spending about $7,000 per employee on new training initiative for a third of its U.S work force by 2025 through its "upskilling 2025" initiative to help its workers become more proficient in technology such as machine learning. A move that comes as labor unrest at Amazon and growing fear of widespread job losses due to automation growth (Romano, 2019). Similarly, businesses could also partner with educational institutions to provide workers with access to training and education tailored to AI-related skills. For instance, IBM through its P-TECH programme continues to address the IT skill gap, by helping integrate formal education and industry needs providing students access to foundational knowledge on topics like cybersecurity, artificial intelligence(AI) and cloud computing, all high demanding roles for the future (Hastings, 2021).

Governments can play a crucial role in addressing these concerns by implementing policies that promote vocational training and workforce transition support programs. For instance, Germany has implemented policies that provide financial assistance and training programs for workers in industries like manufacturing that are undergoing automation, through its Work 4.0 initiative helping workers transition into new roles (Vieira, 2017). Government can also provide a safety net and opportunities for displaced workers affected through financial aid such as grants,

subsidies and stimulus checks could go a long way here. Additionally, Governments could emphasize protection of worker's right by enacting laws that reinforce safeguards on workers' rights, set of laws that mandate companies using AI for employment decision to disclose the criteria and data used by these algorithms, Privacy protection laws should be enacted limiting the scope of AI surveillance in the workplace, workers must have clear rights to know how their data is collected, stored and used by their employers. A model of this laws is in Europe through General Data Protection Regulation (GDPR) that offers protection against excessive data collection. Additionally, Governments can address labor market disruption, studies show that in the United States labor market the increased adoption of AI language models reveal that around 80% of the US workforce could have at least 10% of their work affected by these AI models integration (Eloundou et al., 2023). Governments can address this by investing in retraining programs that provide workers with the training needed to thrive in this AI driven economy. look not further than the European Union, the EU has emphasized continuous learning initiatives to ensure easier transition (European Economic and Social Committee, 2020).

For least developed countries (LDCs), particularly those in Sub-Saharan Africa, the AI boom present unique opportunities for economic development, job growth, and innovation. Sub-Saharan African countries face challenges related to limited digital infrastructure, which hinders access to AI technologies, However, Governments in those countries could prioritize investments in internet infrastructure through partnering with international cooperation to help bridge the digital divide. Furthermore, incentives the growth of digital skills while fostering digital innovation for entrepreneurship. This will undoubtedly create more opportunities and jobs for locals, improved infrastructure for high-speed internet and computing, can allow for improved education and health-care provision (African Center for Economic Transformation, 2025).

CHAPTER THREE

METHODOLOGY

In this study, the survey methodology was followed. Under this heading, information about the research purpose, research questions, and research design is provided.

3.1. Purpose of the Research

The purpose of this research is to explore and compare the perspectives of participants living in Tanzania and Türkiye regarding the impact of artificial intelligence (AI) on the workforce. Specifically, the study aims to examine how these two groups view AI's role in job displacement, the need for technological skills, and the implications for their career goals. The study also seeks to understand the level of concern among participants about AI's potential to eliminate jobs and its economic effects. Through these comparisons, the research will contribute to understanding the similarities and differences in how AI is perceived in different cultural and economic contexts.

3.2. Research Questions

The research questions are structured as outlined below.

1. What are the differences and similarities in the views of participants from Tanzania and Türkiye regarding the need for more technological skills to achieve their career goals in the context of AI?

2. Do participants in Tanzania and Türkiye perceive AI as a threat to job creation, and how do they compare in their opinions about whether AI will eliminate more jobs than it creates?

3. How concerned are participants in both countries about the possibility of AI eliminating their jobs or affecting decisions related to hiring and promotions in the future?

4. How do participants in Tanzania and Türkiye perceive the economic impact of AI on the labor market in their respective countries?

5. What is the level of importance for participants in both countries regarding government action to prevent AI from causing job losses among workers?

3.3. Research Design

This study employs a survey-based research design, which is appropriate for investigating public perceptions, attitudes, and workforce concerns about artificial intelligence (AI). Surveys allow researchers to collect standardized responses from a large sample, making it possible to identify trends, measure public opinion, and compare perspectives across different demographics and geographical locations (Fowler Jr., 2013). Other research methods, such as qualitative interviews or case studies, were considered but were not selected due to their limitations in capturing broad population-level insights. Given that AI's workforce impact is a global issue, a quantitative approach ensures a more generalizable and representative understanding of the perceptions held by workers in different regions. Türkiye and Tanzania were selected as case study countries due to their contrasting levels of technological development, economic structure, and workforce digitization. Tanzania, represents a lower-middle income economy where AI adoption is still in its early stages and concerns about workforce displacement and skill adaptation are relatively under explored. Moreover, there are growing concerns from people in these economies like Tanzania (LMICs) that AI will worsen employment opportunities rather than create new ones. Studying workforce attitudes toward AI in Tanzania highlights these unique challenges. Other factors like lack of formal AI strategy implementation and a relatively low-level of digital literacy and AI-related job skills allows for unique insightful comparison. Türkiye, on the other hand has a higher technological infrastructure and digital literacy rates compared to Tanzania, making it a valuable case study for understanding how AI adoption affects workers in economies that are already experiencing automation and digital transformation. Additionally, Türkiye is in the process of experiencing significant workforce transformation due to the increase in AI-driven automation, its residents face upskilling demands and job displacement risks, making it important to study their perspectives on AI workforce impact.

3.4. Participants

The study surveyed 506 participants. The sample included individuals from different age groups, education levels, and income brackets, making the findings more comprehensive. Participation in the survey was voluntary, and respondents were informed about the purpose of the study and the confidentiality of their responses. No

personally identifiable information was collected, ensuring compliance with ethical research standards.

Within the scope of the research, data were collected from 506 participants. The distribution of participants based on certain demographic characteristics is presented in Table 1.

Table 1. Distribution of Participants by Selected Demographic Characteristics

	General		Tanzania		Türkiye	
Demographic characteristics	n	%	n	%	n	%
Gender						
Male	278	54.7	223	61.6	55	37.7
Female	228	44.9	137	37.8	91	62.3
Age						
18 - 24 years old	115	22.6	62	17.1	53	36.3
25 - 34 years old	164	32.3	99	27.3	65	44.5
35 - 44 years old	131	25.8	110	30.4	21	14.4
45 - 54 years old	78	15.4	72	19.9	6	4.1
55 - 64 years old	15	3.0	15	4.1	-	-
64+ years old	3	.6	3	.8	-	-
What is your marital status ?						
Single	238	46.9	140	38.7	98	67.1
Married	268	52.8	222	61.3	46	31.5
Country						
Tanzania	362	68.8	-	-	-	-
Türkiye	146	27.8	-	-	-	-
What is the highest level of school you have completed or the highest degree you have received ?						
No schooling completed	5	1.0	5	1.4	-	-
High-school graduate	48	9.4	34	9.4	14	9.6
Bachelor's degree	247	48.6	158	43.6	89	61.0
Master's degree	186	36.6	148	40.9	38	26.0
Doctorate degree	21	4.1	17	4.7	4	2.7
Phd doctorate	1	.2	-	-	1	.7
What is your total monthly income?						

$200 - $499	143	28.1	115	31.8	28	19.2
$500 - $999	177	34.8	100	27.6	77	52.7
$1,000 - $1,999	118	23.2	88	24.3	30	20.5
$2,000 - $4,000	43	8.5	36	9.9	7	4.8
$4,000 +	15	3.0	12	3.3	3	2.1
Which of the following best describes your current employment situation ? If you are a student, please pick the category that best describes you.						
Employment working full-time hours (at least 35 hours per week)	308	60.6	248	68.5	60	41.1
Employed working part-time hours (34 hours or less per week)	127	25.0	68	18.8	59	40.4
Unemployed and looking for work	43	8.5	28	7.7	15	10.3
Unemployed and not looking for work	17	3.3	9	2.5	8	5.5
Retired	3	.6	3	.8	-	-
Don't know / Refused	7	1.4	3	.8	4	2.7
How confident are you that if you lost or wanted to leave your current job, you could find another job as good or better?						
Not at all confident	20	3.9	17	4.7	3	2.1
Not too confident	51	10.0	47	13.0	4	2.7
Neither confident nor unconfident	82	16.1	66	18.2	16	11.0
Somewhat confident	195	38.4	120	33.1	75	51.4
Very confident	157	30.9	110	30.4	47	32.2
Thinking about the next three to five years how likely are you to be at the same place of work you are now?						
Not at all likely	31	6.1	22	6.1	9	6.2
Not too likely	70	13.8	50	13.8	20	13.7
Neither likely nor unlikely	58	11.4	41	11.3	17	11.6
Somewhat likely	165	32.5	108	29.8	57	39.0
Very likely	178	35.0	137	37.8	41	28.1

When examining Table 1, it is observed that, in general, the number of male participants is higher than that of females. While the distribution in Tanzania aligns with the overall trend, in Türkiye, the number of female participants exceeds that of males. Regarding age distribution, the most common age group is 25–34 in general and in Türkiye, whereas in Tanzania, it is 35–44. In terms of marital status, married

individuals are more prevalent overall and in Tanzania, while single individuals are more common in Türkiye.

Regarding place of residence, more than two-thirds of the participants live in Tanzania. In terms of education level, the majority of participants hold a bachelor's degree. In terms of income, the most common income range is $500–$999 overall in Türkiye, while in Tanzania, it is $200–$499.

With respect to employment status, most participants are full-time employees. When asked about their confidence in finding a similar or better job in case of job loss or resignation, participants generally feel somewhat confident, both in Tanzania and Türkiye. Regarding their likelihood of continuing in their current job over the next three to five years, participants in Tanzania overall believe they are highly likely to stay, whereas participants in Türkiye consider it somewhat likely.

3.5. Data Collection Method

The questionnaire used was adopted from Heldrich Center for Workforce Development (2024) report. And was digitally distributed to maximize participation and minimize geographical and logistical constraints. The content of the questionnaire survey consisted of two sections and a total of 28 questions. The first section focuses on the demographic characteristics of the participants (6 questions), while the second section includes 22 questions designed in a 3-item Likert scale format to explore participants' opinions on the impact of artificial intelligence on the workforce. The questionnaire form is presented in Appendix-2. Additionally, the survey was submitted for evaluation to the Ethics committee of Istanbul Gelişim University and had been approved. The ethics approval document is presented in Appendix-1.

3.6. Data Analysis Techniques

To analyze the survey responses, Percentages and Frequency distribution were used to identify trends, measure workforce concerns, and compare demographic groups. These descriptive statistics allow for a clear interpretation of how how AI-related workforce concerns vary across different regions, industries and professional backgrounds. Additionally, Chi-square analysis was applied to assess the relationship between categorical variables (e.g., country of residency and AI concerns). This method was chosen because it allows for the determination of statistically significant

difference in perceptions between Türkiye and Tanzania. Additionally, IBM SPSS 26 was used for data processing, ensuring reliable and efficient analysis of large data sets.

3.7. Survey Research

Survey research is a quantitative method for collecting data from a predefined population using questionnaires or interviews. It is widely used in social sciences, business, and workforce studies for its efficiency in gathering large datasets, generalizing findings, and enabling statistical analysis (Fowler Jr., 2013).

The survey method involved designing structured questions, selecting a representative sample, distributing questionnaires, collecting responses, and analyzing data. In this study, a digital survey was used to maximize accessibility and participation while minimizing geographical constraints. Alternative research methods, such as mixed-method approaches, were considered but not selected due to their qualitative focus, which would not have allowed for large-scale statistical comparison. A purely qualitative approach e.g interviews would have provided deeper insights but lacked the ability to generalize findings across a large sample. Hence, a survey was chosen to ensure broad applicability and statistical validity.

3.7.1. Descriptive Statistics

Descriptive statistics summarize and organize collected data to reveal patterns and trends. Common descriptive statistics include measures of central tendency (mean, median, and mode) and measures of variability (standard deviation and range) . In this study, frequency and percentage distributions were utilized to interpret participants' responses effectively allowing for clear visualization of workforce attitudes towards AI’s impact. (Kaur et.al, 2018).

3.7.2. Chi-Square Test

Chi-square test is a statistical method used to examine relationships between categorical variables. It assesses whether an observed association between two variables is statistically significant. (Rana & Singhal, 2015) In this study, chi-square tests were conducted to assess differences in AI-related workforce concerns between participants from Tanzania and Türkiye. The results helped highlight whether AI-related fears, jobs security concerns, or technological adaptation needs varied significantly across the two national samples.

3.8. Validity and Reliability of the Survey

In this study, a survey questionnaire was adapted from Heldrich Center for Workforce Development (2024) report. to collect data on the impact of artificial intelligence on the workforce. Since the survey is not a standardized measurement scale but rather a descriptive questionnaire, internal consistency analysis using Cronbach's Alpha was not conducted.

Using an established survey instruments offers multiple advantages, including enhanced credibility Comparability, minimized design flaws and alignment with best practices in labor market research.

To ensure the validity and reliability of the survey, the following approaches were implemented:

Content Validity

The survey questions were adopted from a comprehensively reviewed and expert-evaluated questionnaire. With all questions carefully formulated to ensure they accurately reflect the research topic. This approach guarantees that the questionnaire effectively captures the essential aspects of AI's impact on workforce dynamics.

Pre-Test/Pilot Study

A small-scale pilot study was conducted to assess the clarity and feasibility of the survey items, helping refine the questions before full-scale data collection. The questionnaire was distributed to 30 participants, and subsequent improvements were made based on their feedback. The pre-test identified ambiguous phrasing and ensured that participants understood the questions as intended. The responses were analyzed using frequency and percentage distributions, to provide insights into the consistency of participants' answers. This method ensured alignment with expected trends and patterns.

Clear and Unbiased Question Design

The survey was designed to be clear and unambiguous, minimizing misinterpretation and response bias among participants. In addition, neutral phrasing was used to prevent influencing responses.

3.9. Procedure

The questionnaire was distributed digitally, leveraging online platforms allowing for broad accessibility and effective data collection. The digital format ensured a real-time logging of responses, which were automatically stored in a structured and encrypted format to maintain data integrity and security. The data collection period lasted three months, during which participation was entirely voluntary. All respondents were fully informed about the study's purpose and assured that their responses would remain confidential. No personally identifiable information was collected, ensuring compliance with ethical research standards. After data collection, the responses underwent a thorough data cleaning process. Incomplete responses were excluded from the dataset. Additionally, duplicate entries and inconsistent responses were reviewed and corrected where necessary.

3.10. Limitations

Respondents from Tanzania were significantly higher this imbalance might have skewered comparative analyses between the two group. There is a likelihood some respondents may have provided regional biases responses potentially affecting the neutrality of the final results. The close-ended questions might have constrained respondents potentially limiting nuanced insights. The nature of my study acknowledges that the field of AI is ever evolving thus this research may only capture a snapshot of respondents' view at the current time and might not factor in whatever changes or breakthrough might happen in weeks or months times that might affect their take then thus limiting conclusion. Lastly, the study would do better with a much larger sample size and a broader category rather than just two countries.

3.11. Generalizability

The target population of this study consists of individuals residing in Tanzania and Türkiye. No specific restrictions were applied in participant selection, and data were collected from a total of 506 respondents. Since the study does not rely on a clearly defined population frame, the findings cannot be considered fully representative of the entire populations of these countries. However, the study still provides valuable insights into the perspectives of individuals from diverse backgrounds regarding the impact of artificial intelligence on the workforce. The study aims to explore trends and perspectives rather than make definitive statistical

inferences for an entire population. This makes the results valuable for understanding emerging viewpoints. Although the sample is not strictly representative, 506 responses provide a substantial dataset that captures a variety of opinions and experiences. Since the study primarily employs descriptive analysis, the objective is not to generalize findings to the entire population but to identify patterns and insights within the collected data.

Ultimately, the findings serve as a foundation for further studies with more structured sampling techniques, allowing future research to test and expand upon these results. In addition, while the study does not claim full generalizability, its contributions lie in providing an initial understanding of how individuals in Tanzania and Türkiye perceive AI's impact on the workforce.

CHAPTER FOUR
FINDINGS

Under this heading, the findings of the survey research are presented, first reflecting the general opinions of the participants and then showing a comparison between Tanzania and Türkiye.

4.1. General Views of the Participants

Participants' opinions on the item "How concerned are you about the current unemployment rate?" are presented in Table 2.

Table 2. Participants' Opinions on the Item "How concerned are you about the current unemployment rate?"

	n	%
Not concerned	21	4.1
Neither concerned nor unconcerned	101	19.9
Concerned	381	75.0

When examining Table 2, it can be stated that participants selected the "Concerned" option (75%) at a higher rate compared to "Not concerned" (4.1%) and "Neither concerned nor unconcerned" (19.9%).

Participants' opinions on the item "How concerned are you for the job security of those currently working?" are presented in Table 3.

Table 3. Participants' Opinions on the Item "How concerned are you for the job security of those currently working?"

	n	%
Not concerned	29	5.7
Neither concerned nor unconcerned	117	23.0
Concerned	356	70.1

When examining Table 3, it can be stated that participants selected the "Concerned" option (70.1%) at a higher rate compared to "Not concerned" (5.7%) and "Neither concerned nor unconcerned" (23%).

Participants' opinions on the item "How concerned are you about your own job security?" are presented in Table 4.

Table 4. Participants' Opinions on the Item "How concerned are you about your own job security?"

	n	%
Not concerned	98	19.3
Neither concerned nor unconcerned	80	15.7
Concerned	323	63.6

When examining Table 4, it can be stated that participants selected the "Concerned" option (63.6%) at a higher rate compared to "Not concerned" (19.3%) and "Neither concerned nor unconcerned" (15.7%).

Participants' opinions on the item "How concerned are you about the job market for those looking for work?" are presented in Table 5.

Table 5. Participants' Opinions on the Item "How concerned are you about the job market for those looking for work?"

	n	%
Not concerned	35	6.9
Neither concerned nor unconcerned	92	18.1
Concerned	373	73.4

When examining Table 5, it can be stated that participants selected the "Concerned" option (73.4%) at a higher rate compared to "Not concerned" (6.9%) and "Neither concerned nor unconcerned" (18.1%).

Participants' opinions on the item "How concerned are you about the ability to financially support yourself?" are presented in Table 6.

Table 6. Participants' Opinions on the Item "How concerned are you about the ability to financially support yourself ?"

	n	%
Not concerned	103	20.3
Neither concerned nor unconcerned	82	16.1
Concerned	315	62.0

When examining Table 6, it can be stated that participants selected the "Concerned" option (62%) at a higher rate compared to "Not concerned" (20.3%) and "Neither concerned nor unconcerned" (16.1%).

Participants' opinions on the item "How concerned are you about the impact of artificial intelligence on jobs (artificial intelligence, or AI, is the use of machines or technology to complete tasks by simulating human intelligence)?" are presented in Table 7.

Table 7. Participants' Opinions on the Item "How concerned are you about the impact of artificial intelligence on jobs (artificial intelligence, or AI, is the use of machines or technology to complete tasks by simulating human intelligence)?"

	n	%
Not concerned	40	7.9
Neither concerned nor unconcerned	40	7.9
Concerned	421	82.9

When examining Table 7, it can be stated that participants selected the "Concerned" option (82.9%) at a higher rate compared to "Not concerned" (7.9%) and "Neither concerned nor unconcerned" (7.9%).

Participants' opinions on the item "How concerned are you about the cost of living?" are presented in Table 8.

Table 8. Participants' Opinions on the Item "How concerned are you about the cost of living?"

	n	%
Not concerned	34	6.7
Neither concerned nor unconcerned	52	10.2
Concerned	413	81.3

When examining Table 8, it can be stated that participants selected the "Concerned" option (81.3%) at a higher rate compared to "Not concerned" (6.7%) and "Neither concerned nor unconcerned" (10.2%).

Participants' opinions on the item "How concerned are you about the possibility of an economic downturn or recession in the next 12 months?" are presented in Table 9.

Table 9. Participants' Opinions on the Item "How concerned are you about the possibility of an economic downturn or recession in the next 12 months?"

	n	%
Not concerned	35	6.9
Neither concerned nor unconcerned	66	13.0
Concerned	400	78.7

When examining Table 9, it can be stated that participants selected the "Concerned" option (78.7%) at a higher rate compared to "Not concerned" (6.9%) and "Neither concerned nor unconcerned" (13%).

Participants' opinions on the item "Would you say your country's unemployment rate is near the lowest it has been in 50 years?" are presented in Table 10.

Table 10. Participants' Opinions on the Item "Would you say your country's unemployment rate is near the lowest it has been in 50 years?"

	n	%
No	238	46.9
Not sure	115	22.6
Yes	142	28.0

When examining Table 10, it can be stated that participants selected the "No" option (46.9%) at a higher rate compared to "Not sure" (22.6%) and "Yes" (28%).

Participants' opinions on the item "Do you think you will need more technological skills to achieve your career goals?" are presented in Table 11.

Table 11. Participants' Opinions on the Item "Do you think you will need more technological skills to achieve your career goals?"

	n	%
Disagree	16	3.1
Neither agree nor disagree	22	4.3
Agree	460	90.6

When examining Table 11, it can be stated that participants selected the "Agree" option (90.6%) at a higher rate compared to "Disagree" (3.1%) and "Neither agree nor disagree" (4.3%).

Participants' opinions on the item "Do you think new technologies eliminate more jobs than they create?" are presented in Table 12.

Table 12. Participants' Opinions on the Item "Do you think new technologies eliminate more jobs than they create?"

	n	%
Disagree	46	9.1
Neither agree nor disagree	59	11.6
Agree	393	77.4

When examining Table 12, it can be stated that participants selected the "Agree" option (77.4%) at a higher rate compared to "Disagree" (9.1%) and "Neither agree nor disagree" (11.6%).

Participants' opinions on the item "How much have you heard or read about the impact of artificial intelligence (AI) on workers and jobs in your country?" are presented in Table 13.

Table 13. Participants' Opinions on the Item "How much have you heard or read about the impact of artificial intelligence (AI) on workers and jobs in your country?"

	n	%
Nothing at all	24	4.7
A little	279	54.9
A lot	193	38.0

When examining Table 13, it can be stated that participants selected the "A little" option (54.9%) at a higher rate compared to "Nothing at all" (4.7%) and "A lot" (38%).

Participants' opinions on the item "To what extent would you say artificial intelligence may or may not change the nature of jobs in your country?" are presented in Table 14.

Table 14. Participants' Opinions on the Item "To what extent would you say artificial intelligence may or may not change the nature of jobs in your country?"

	n	%
Nothing at all	20	3.9
A little	218	42.9
A lot	256	50.4

When examining Table 14, it can be stated that participants selected the "A lot" option (50.4%) at a higher rate compared to "A little" (42.9%) and "Nothing at all" (3.9%).

Participants' opinions on the item "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that you will need more technological skills to achieve your career goals?" are presented in Table 15.

Table 15. Participants' Opinions on the Item "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that you will need more technological skills to achieve your career goals?"

	n	%
Not confident	15	3.0
Neither confident nor unconfident	36	7.1
Confident	444	87.4

When examining Table 15, it can be stated that participants selected the "Confident" option (87.4%) at a higher rate compared to "Not confident" (3%) and "Neither confident nor unconfident" (7.1%).

Participants' opinions on the item "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that your job/occupation will be eliminated?" are presented in Table 16.

Table 16. Participants' Opinions on the Item "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that your job/occupation will be eliminated?"

	n	%
Not confident	59	11.6
Neither confident nor unconfident	60	11.8
Confident	376	74.0

When examining Table 16, it can be stated that participants selected the "Confident" option (74%) at a higher rate compared to "Not confident" (11.6%) and "Neither confident nor unconfident" (11.8%).

Participants' opinions on the item "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that employers use artificial intelligence when making decisions about hiring and/or promoting workers?" are presented in Table 17.

Table 17. Participants' Opinions on the Item "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that employers use artificial intelligence when making decisions about hiring and/or promoting workers?

	n	%
Not confident	28	5.5
Neither confident nor unconfident	45	8.9
Confident	423	83.3

When examining Table 17, it can be stated that participants selected the "Confident" option (83.3%) at a higher rate compared to "Not confident" (5.5%) and "Neither confident nor unconfident" (8.9%).

Participants' opinions on the item "Artificial intelligence will eliminate more jobs than it will create?" are presented in Table 18.

Table 18. Participants' Opinions on the Item "Artificial intelligence will eliminate more jobs than it will create?"

	n	%
Disagree	45	8.9
Neither agree nor disagree	53	10.4
Agree	397	78.1

When examining Table 18, it can be stated that participants selected the "Agree" option (%78.1) more frequently than "Disagree" (%8.9) and "Neither agree nor disagree" (%10.4). Participants' opinions on the item "Higher-income workers are more likely to lose their jobs because of artificial intelligence, compared to lower-income workers?" are provided in Table 19.

Table 19. Participants' Opinions on the Item "Higher-income workers are more likely to lose their jobs because of artificial intelligence, compared to lower-income workers?"

	n	%
Disagree	182	35.8
Neither agree nor disagree	116	22.8
Agree	197	38.8

When examining Table 19, it can be stated that the participants marked the "Agree" option (38.8%) more frequently than the "Disagree" (35.8%) and "Neither agree nor disagree" (22.8%) options. The participants' opinions on the item "I will need more technological skills to achieve my career goals?" are provided in Table 20.

Table 20. Participants' Opinions on the Item "I will need more technological skills to achieve my career goals?"

	n	%
Disagree	8	1.6
Neither agree nor disagree	23	4.5
Agree	463	91.1

When examining Table 20, it can be stated that participants selected the "Agree" option (%91.1) more frequently compared to the "Disagree" (%1.6) and "Neither agree nor disagree" (%4.5) options.

The participants' opinions regarding the item "Artificial intelligence is good for the economy?" are presented in Table 21.

Table 21. Participants' Opinions on the Item "Artificial intelligence is good for the economy?"

	n	%
Disagree	8	1.6
Neither agree nor disagree	65	12.8
Agree	423	83.3

Table 21 shows that participants selected the "Agree" option (%83.3) more frequently than the "Disagree" (%1.6) and "Neither agree nor disagree" (%12.8) options.

Participants' opinions regarding the item "How important, if at all, is it that the government in your country take action to ensure that artificial intelligence does not cause workers to lose their jobs?" are presented in Table 22.

Table 22. Participants' opinions on the item "How important, if at all, is it that the government in your country take action to ensure that artificial intelligence does not cause workers to lose their jobs?"

	n	%
Not important	14	2.8
Neither important nor unimportant	26	5.1
Important	457	90.0

It can be stated that, when examining Table 22, participants marked the "Important" option (%90) at a significantly higher rate compared to the "Not important" (%2.8) and "Neither important nor unimportant" (%5.1) options.

4.2. A Comparison between Tanzania and Türkiye

The comparison of participants' responses to "How concerned are you about the current unemployment rate?" based on their place of residence is provided in Table 23.

Table 23. Comparison of participants' responses to "How concerned are you about the current unemployment rate?" based on their place of residence.

		Tanzania	Türkiye	Total
Not too concerned	n	19	2	21
	%	5.3	1.4	4.2
Neither concerned nor unconcerned	n	44	57	101
	%	12.3	39.0	20.1
Somewhat concerned	n	294	87	381
	%	82.4	59.6	75.7
Total	n	357	146	503
	%	100.0	100.0	100.0

When Table 23 is examined, it can be stated that participants living in Tanzania marked the "Somewhat concerned" option (%82.4) more than participants living in Türkiye (%59.6), while participants in Türkiye marked the "Neither concerned nor unconcerned" option (%39) more than participants in Tanzania (%12.3). A chi-square analysis was performed to test the significance of these observed differences, and it was found that the difference is statistically significant ($\chi 2 = 47.800$, $p < .05$). The comparison of participants' responses to "How concerned are you for the job security for those currently working?" based on their place of residence is presented in Table 24.

Table 24. Comparison of Participants' Responses Regarding "How concerned are you for the job security for those currently working?" Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Not too concerned	n	24	5	29
		%	6.7	3.4	5.8
	Neither concerned nor unconcerned	n	53	64	117
		%	14.8	44.1	23.3
	Somewhat concerned	n	280	76	356
		%	78.4	52.4	70.9
Total		n	357	145	502
		%	100.0	100.0	100.0

When examining Table 24, it can be stated that participants residing in Tanzania marked the "Somewhat concerned" option (%78.4) more frequently than those living in Türkiye (%52.4), while those living in Türkiye marked the "Neither concerned nor unconcerned" option (%44.1) more frequently than those in Tanzania (%14.8). A chi-square analysis was conducted to assess the significance of these observed differences, and it was found that the difference is significant ($\chi 2 = 49.719$, $p < .05$). The comparison of participants' responses regarding "How concerned are you about your own job security?" based on their place of residence is presented in Table 25.

Table 25. Comparison of participants' responses to the question 'How concerned are you about your own job security?' based on their place of residence."

			Tanzania	Türkiye	Total
	Not too concerned	n	54	44	98
		%	15.2	30.3	19.6
	Neither concerned nor unconcerned	n	37	43	80
		%	10.4	29.7	16.0
	Somewhat concerned	n	265	58	323
		%	74.4	40.0	64.5
Total		n	356	145	501
		%	100.0	100.0	100.0

Table 25 shows that participants living in Tanzania selected the 'Somewhat concerned' option (%74.4) at a higher rate than participants in Türkiye (%40), while those living in Türkiye selected the 'Neither concerned nor unconcerned' option (%29.7) at a higher rate than those in Tanzania (%10.4). Participants in Türkiye also marked the 'Not too concerned' option (%30.3) more frequently than those in Tanzania (%15.2). A chi-square analysis was conducted to test the significance of the observed differences, and it was found that the difference is statistically significant ($\chi^2 = 55.026$, $p < .05$).

A comparison of participants' responses to the question 'How concerned are you about the job market for those looking for work?' based on their place of residence is shown in Table 26.

Table 26. Comparison of Participants' Responses to "How concerned are you about the job market for those looking for work?" Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Not too concerned	n	22	13	35
		%	6.2	9.0	7.0
	Neither concerned nor unconcerned	n	46	46	92
		%	12.9	31.9	18.4
	Somewhat concerned	n	288	85	373
		%	80.9	59.0	74.6
Total		n	356	144	500
		%	100.0	100.0	100.0

When examining Table 26, it can be observed that participants living in Tanzania selected the "Somewhat concerned" option (80.9%) at a higher rate compared to those living in Türkiye (59%). On the other hand, participants living in Türkiye selected the "Neither concerned nor unconcerned" option (31.9%) more frequently than those in Tanzania (12.9%). A chi-square analysis was conducted to determine the significance of these observed differences, and the difference was found to be significant ($\chi^2 = 29.927$, $p < .05$). The comparison of participants' responses to

"How concerned are you about the ability to financially support yourself?" based on their place of residence is presented in Table 27.

Table 27. Comparison of Participants' Responses to "How concerned are you about the ability to financially support yourself?" based on Their Place of Residence

			Tanzania	Türkiye	Total
	Not too concerned	n	53	50	103
		%	14.9	34.7	20.6
	Neither concerned nor unconcerned	n	34	48	82
		%	9.6	33.3	16.4
	Somewhat concerned	n	269	46	315
		%	75.6	31.9	63.0
Total		n	356	144	500
		%	100.0	100.0	100.0

"Somewhat concerned" option (75.6%) at a higher rate compared to those living in Türkiye (31.9%). On the other hand, participants living in Türkiye selected the "Neither concerned nor unconcerned" option (33.3%) more frequently than those in Tanzania (9.6%). Additionally, participants in Türkiye also marked the "Not too concerned" option (34.7%) at a higher rate than those in Tanzania (14.9%). A chi-square analysis was conducted to determine the significance of these observed differences, and the difference was found to be significant ($\chi^2 = 85.903$, $p < .05$). The comparison of participants' responses to "How concerned are you about the impact of artificial intelligence on jobs (artificial intelligence, or AI, is the use of machines or technology to complete tasks by simulating human intelligence)" based on their place of residence is presented in Table 28.

Table 28. Comparison of Participants' Concerns About the Impact of Artificial Intelligence on Jobs Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Not too concerned	n	29	11	40
		%	8.1	7.7	8.0
	Neither concerned nor unconcerned	n	24	16	40
		%	6.7	11.2	8.0
	Somewhat concerned	n	305	116	421
		%	85.2	81.1	84.0
Total		n	358	143	501
		%	100.0	100.0	100.0

When Table 28 is examined, it is observed that participants living in Tanzania have similar opinions to those living in Türkiye. However, some differences exist. A chi-square analysis was conducted to determine the significance of these observed differences, and it was found that the difference was not significant ($\chi^2 = 2.798$, $p > .05$). Accordingly, participants from Tanzania and Türkiye share similar views on this item. The comparison of participants' responses to the question "How concerned are you about the cost of living?" based on their place of residence is presented in Table 29.

Table 29. Comparison of participants' responses to "How concerned are you about the cost of living?" based on their place of residence

			Tanzania	Türkiye	Total
	Not too concerned	n	21	13	34
		%	5.9	9.2	6.8
	Neither concerned nor unconcerned	n	29	23	52
		%	8.1	16.2	10.4
	Somewhat concerned	n	307	106	413
		%	86.0	74.6	82.8
Total		n	357	142	499
		%	100.0	100.0	100.0

When Table 29 is examined, it can be stated that participants living in Tanzania selected the Somewhat concerned option (86%) at a higher rate compared to those living in Türkiye (74.6%). On the other hand, participants living in Türkiye selected the Neither concerned nor unconcerned option (16.2%) more frequently than those in Tanzania (8.1%). A chi-square analysis was conducted to determine the significance of these observed differences, and the difference was found to be significant ($\chi^2 = 9.532$, $p < .05$).

The comparison of participants' responses to "How concerned are you about the possibility of an economic downturn or recession in the next 12 months?" based on their place of residence is presented in Table 30.

Table 30. Comparison of Participants' Responses to "How concerned are you about the possibility of an economic downturn or recession in the next 12 months?" Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Not too concerned	n	32	3	35
		%	9.0	2.1	7.0
	Neither concerned nor unconcerned	n	52	14	66
		%	14.6	9.7	13.2
	Somewhat concerned	n	273	127	400
		%	76.5	88.2	79.8
Total		n	357	144	501
		%	100.0	100.0	100.0

When Table 30 is examined, it can be stated that participants living in Türkiye marked the "Somewhat concerned" option (88.2%) more frequently than those living in Tanzania (76.5%). On the other hand, participants in Tanzania marked the "Neither concerned nor unconcerned" option (14.6%) more frequently than those in Türkiye (9.7%). Additionally, participants in Tanzania marked the "Not too concerned" option (9%) more frequently than those in Türkiye (2.1%). To assess the statistical significance of these observed differences, a chi-square analysis was conducted, and the difference was found to be significant ($\chi 2 = 10.547$, $p < .05$).

The comparison of participants' responses to the statement "Would you say your country's unemployment rate is near the lowest it has been in 50 years?" based on their place of residence is shown in Table 31.

Table 31. Comparison of Participants' Responses to “Would you say your country's unemployment rate is near the lowest it has been in 50 years?” Based on Their Location.

			Tanzania	Türkiye	Total
	No	n	151	87	238
		%	42.7	61.7	48.1
	Not sure	n	98	17	115
		%	27.7	12.1	23.2
	Yes	n	105	37	142
		%	29.7	26.2	28.7
Total		n	354	141	495
		%	100.0	100.0	100.0

When examining Table 31, it can be stated that participants living in Tanzania marked the 'Not sure' option (27.7%) more frequently than participants living in Türkiye (12.1%), while participants living in Türkiye marked the 'No' option (61.7%) more frequently than participants living in Tanzania (42.7%). Chi-square analysis was performed to determine the significance of these observed differences, and it was found that the difference is significant ($\chi 2 = 18.619$, $p < .05$). A comparison of participants' responses to 'Do you think you will need more technological skills to achieve your career goals?' based on their location is shown in Table 32.

Table 32. Comparison of Participants' Responses to 'Do you think you will need more technological skills to achieve your career goals?' Based on Their Location.

			Tanzania	Türkiye	Total
	Disagree	n	11	5	16
		%	3.1	3.5	3.2
	Neither agree nor disagree	n	15	7	22
		%	4.2	4.9	4.4
	Agree	n	329	131	460
		%	92.7	91.6	92.4
Total		n	355	143	498
		%	100.0	100.0	100.0

Table 32 shows that there are some differences in the views of participants living in Tanzania and Türkiye. A chi-square test was conducted to examine whether these differences are statistically significant. The analysis showed that the difference was not significant ($\chi 2 = .166$, $p > .05$). Therefore, for this item, people living in Türkiye and Tanzania share similar views. The comparison of participants' responses to 'Do you think new technologies eliminate more jobs than they create?' based on their location is presented in Table 33.

Table 33. Comparison of participants' responses to 'Do you think new technologies eliminate more jobs than they create?' based on their location.

			Tanzania	Türkiye	Total
	Disagree	n	41	5	46
		%	11.5	3.5	9.2
	Neither agree nor disagree	n	39	20	59
		%	11.0	14.0	11.8
	Agree	n	275	118	393
		%	77.5	82.5	78.9
Total		n	355	143	498
		%	100.0	100.0	100.0

Table 33 reveals that participants living in Türkiye selected the 'Agree' option (%82.5) more frequently than those living in Tanzania (%12.1), and participants in Türkiye also selected the 'Neither agree nor disagree' option (%14) more frequently than those in Tanzania (%11). However, participants living in Tanzania (%11.5) selected the 'Disagree' option more frequently than those living in Türkiye (%3.5). To examine the significance of these observed differences, a chi-square analysis was conducted, and the difference was found to be significant ($\chi 2 = 8.261$, $p < .05$).

The comparison of participants' responses to 'How much have you heard or read about the impact of artificial intelligence (AI) on workers and jobs in your country?' based on their location is provided in Table 34.

Table 34. Comparison of participants' responses to "How much have you heard or read about the impact of artificial intelligence (AI) on workers and jobs in your country?" based on their place of residence

			Tanzania	Türkiye	Total
	Nothing at all	n	21	3	24
		%	5.9	2.1	4.8
	A little	n	189	90	279
		%	53.5	62.9	56.3
	A lot	n	143	50	193
		%	40.5	35.0	38.9
Total		n	353	143	496
		%	100.0	100.0	100.0

When examining Table 34, it is observed that there are some differences in opinions between participants living in Tanzania and those living in Türkiye. To determine whether these differences are significant, a chi-square test was conducted. The analysis results indicate that the difference is not significant ($\chi^2 = 5.521$, $p > .05$). Accordingly, participants living in Türkiye and Tanzania have similar views on this item.

The comparison of participants' responses to "To what extent would you say artificial intelligence may or may not change the nature of jobs in your country?" based on their place of residence is presented in Table 35.

Table 35. Comparison of Participants' Responses to "To what extent would you say artificial intelligence may or may not change the nature of jobs in your country?" Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Nothing at all	n	17	3	20
		%	4.8	2.1	4.0
	A little	n	158	60	218
		%	45.0	42.0	44.1
	A lot	n	176	80	256
		%	50.1	55.9	51.8
Total		n	351	143	494
		%	100.0	100.0	100.0

When Table 35 is examined, it is observed that there are some differences in opinions between participants living in Tanzania and Türkiye. A chi-square test was conducted to determine whether these differences are significant. According to the analysis results, the difference was found to be not significant ($\chi^2 = 2.767$, $p > .05$). Accordingly, participants living in Türkiye and Tanzania have similar opinions on this item.

The comparison of participants' responses to the question "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that you will need more technological skills to achieve your career goals?" based on their place of residence is presented in Table 36.

Table 36. Comparison of Participants' Responses to "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that you will need more technological skills to achieve your career goals?" Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Not confident	n	12	3	15
		%	3.4	2.1	3.0
	Neither confident nor unconfident	n	25	11	36
		%	7.1	7.7	7.3
	Confident	n	315	129	444
		%	89.5	90.2	89.7
Total		n	352	143	495
		%	100.0	100.0	100.0

When Table 36 is examined, it is observed that there are some differences in opinions between participants living in Tanzania and Türkiye. A chi-square test was conducted to determine whether these differences are significant. According to the analysis results, the difference was found to be not significant ($\chi^2 = .631$, $p > .05$). Accordingly, participants living in Türkiye and Tanzania have similar opinions on this item.

The comparison of participants' responses to the question "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that your job/occupation will be eliminated?" based on their place of residence is presented in Table 37.

Table 37. Comparison of participants' responses to "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that your job/occupation will be eliminated?" based on their place of residence.

			Tanzania	Türkiye	Total
	Not confident	n	54	5	59
		%	15.3	3.5	11.9
	Neither confident nor unconfident	n	45	15	60
		%	12.8	10.5	12.1
	Confident	n	253	123	376
		%	71.9	86.0	76.0
Total		n	352	143	495
		%	100.0	100.0	100.0

When examining Table 37, it can be stated that participants living in Türkiye selected the Confident option (86%) at a higher rate than those living in Tanzania (71.9%). On the other hand, participants living in Tanzania selected the Neither confident nor unconfident option (15.3%) at a higher rate than those living in Türkiye (3.5%). A chi-square analysis was conducted to determine the significance of this observed difference, and the difference was found to be significant ($\chi^2 = 15.087$, $p < .05$).

The comparison of participants' responses to "Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that employers use artificial intelligence when making decisions about hiring and/or promoting workers?" based on their place of residence is presented in Table 38.

Table 38. Comparison of Participants' Responses to “Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that employers use artificial intelligence when making decisions about hiring and/or promoting workers?” Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Not confident	n	27	1	28
		%	7.6	0.7	5.6
	Neither confident nor unconfident	n	32	13	45
		%	9.1	9.1	9.1
	Confident	n	294	129	423
		%	83.3	90.2	85.3
Total		n	353	143	496
		%	100.0	100.0	100.0

When examining Table 38, it can be stated that participants living in Türkiye selected the "Confident" option (90.2%) at a higher rate than those living in Tanzania (83.3%). On the other hand, participants living in Tanzania selected the "Not confident" option (7.6%) at a higher rate than those in Türkiye (0.7%). A chi-square test was conducted to determine the significance of these observed differences, and the difference was found to be significant ($\chi^2 = 9.279$, $p < .05$). The comparison of participants' responses to “Artificial intelligence will eliminate more jobs than it will create?” based on their place of residence is presented in Table 39.

Table 39. Comparison of Participants' Responses to 'Artificial intelligence will eliminate more jobs than it will create?' Based on Their Place of Residence

			Tanzania	Türkiye	Total
	Disagree	n	40	5	45
		%	11.3	3.5	9.1
	Neither agree nor disagree	n	42	11	53
		%	11.9	7.7	10.7
	Agree	n	271	126	397
		%	76.8	88.7	80.2
Total		n	353	142	495
		%	100.0	100.0	100.0

According to Table 39, it can be stated that participants living in Türkiye marked the Agree option (%88.7) more than participants living in Tanzania (%76.8), while those living in Tanzania marked the Disagree option (%11.3) more than those living in Türkiye (%3.5). A chi-square analysis was performed to test the significance of these observed differences, and the difference was found to be significant ($\chi 2 = 10.232$, $p < .05$). The comparison of participants' responses to 'Higher-income workers are more likely to lose their jobs because of artificial intelligence, compared to lower-income workers?' based on their place of residence is given in Table 40.

Table 40. Comparison of participants' responses to "Higher-income workers are more likely to lose their jobs because of artificial intelligence, compared to lower-income workers?" by their place of residence

			Tanzania	Türkiye	Toplam
	Disagree	n	113	69	182
		%	31.9	48.9	36.8
	Neither agree nor disagree	n	67	49	116
		%	18.9	34.8	23.4
	Agree	n	174	23	197
		%	49.2	16.3	39.8
Toplam		n	354	141	495
		%	100.0	100.0	100.0

When Table 40 is examined, it can be stated that participants living in Türkiye marked the Disagree (%48.9) and Neither agree nor disagree (%34.8) options more than participants living in Tanzania (respectively %31.9 and %18.9), while participants living in Tanzania marked the Agree option (%49.2) more than those in Türkiye (%16.3). A chi-square analysis was conducted to test the significance of the observed differences, and it was found that the difference is significant ($\chi^2 = 46.042$, $p < .05$). The comparison of participants' responses to "I will need more technological skills to achieve my career goals?" by their place of residence is presented in Table 41.

Table 41. Comparison of Participants' Responses to "I will need more technological skills to achieve my career goals?" by Location

			Tanzania	Türkiye	Total
	Disagree	n	7	1	8
		%	2.0	0.7	1.6
	Neither agree nor disagree	n	16	7	23
		%	4.6	4.9	4.7
	Agree	n	328	135	463
		%	93.4	94.4	93.7
Total		n	351	143	494
		%	100.0	100.0	100.0

When Table 41 is examined, it can be seen that there are some differences in the views of participants living in Tanzania and Türkiye. To examine whether these differences are significant, a chi-square test was conducted. According to the analysis, it was found that the difference is not significant ($\chi 2 = 1.087$, $p > .05$). Therefore, for this item, participants living in Türkiye and Tanzania have similar views.

The comparison of participants' views on “Artificial intelligence is good for the economy?” by location is presented in Table 42.

Table 42. The comparison of participants' views on "Artificial intelligence is good for the economy?" by location.

			Tanzania	Türkiye	Total
	Disagree	n	6	2	8
		%	1.7	1.4	1.6
	Neither agree nor disagree	n	41	24	65
		%	11.6	16.9	13.1
	Agree	n	307	116	423
		%	86.7	81.7	85.3
Total		n	354	142	496
		%	100.0	100.0	100.0

When Table 42 is examined, it is observed that there are some differences in the views of participants living in Tanzania and Türkiye. A chi-square test was conducted

to examine whether these differences are significant. The analysis showed that the difference is not significant ($\chi 2 = 2.541$, $p > .05$). Therefore, for this item, the views of participants living in Türkiye and Tanzania are similar. The comparison of participants' views on "How important, if at all, is it that the government in your country take action to ensure that artificial intelligence does not cause workers to lose their jobs?" by location is shown in Table 43.

Table 43. The comparison of participants' views on "How important, if at all, is it that the government in your country take action to ensure that artificial intelligence does not cause workers to lose their jobs?" by location.

			Tanzania	Türkiye	Total
	Not important	n	13	1	14
		%	3.7	0.7	2.8
	Neither important nor unimportant	n	18	8	26
		%	5.1	5.6	5.2
	Important	n	323	134	457
		%	91.2	93.7	92.0
Total		n	354	143	497
		%	100.0	100.0	100.0

When Table 43 is examined, it is seen that there are some differences in the views of participants living in Tanzania and Türkiye. To investigate whether these differences are significant, a chi-square test was conducted. The analysis found that the difference was not significant ($\chi 2 = 3.341$, $p > .05$). Therefore, for this item, those living in Türkiye and Tanzania have similar views.

4.3. Discussion

The results reveal a significant level of concern among respondents regarding AI's impact on employment, with 82.9% of participants expressing apprehension about job security. This aligns with previous research indicating that AI and automation disproportionately affect certain job sectors, particularly those reliant on routine, repetitive tasks (Hawksworth et al., 2018). Studies by (Acemoglu, D., & Restrepo, P. (2020) highlight the dual effect of automation in that while some jobs are

displaced, others are created in highly skilled domains. However, the study suggests that despite AI's potential for job creation, many workers perceive a net negative impact. As evidenced, out of 506 respondents, 78.1% (n= 397) agree that AI will eliminate more jobs than it creates.

Additionally, comparative analysis between Tanzania and Türkiye participants reveals different levels of concerns. Tanzanian respondents exhibited higher levels of job insecurity (74.4%) compared to Turkish respondents (40.0%). This disparity may be attributed to difference in AI adoption rates and economic structures. Research by (Manyika et al., (2017) indicates that AI adoption is slower in developing economies, leading to workforce anxieties due to lack of established policies for technological transition. This is consistent with our findings, suggesting that participants in Tanzania are more vulnerable to workforce shifts caused by AI.

On skill transformation and Workforce adaptation. A critical finding of this study is that out of 506 respondents, 91.1% (n= 463) believe they will require additional technological skills to remain competitive in the labor market. This is supported by literature emphasizing the necessity for workforce re-skilling as AI becomes increasingly integrated into business operations (World Economic Forum, 2023) and Brynjolfsson & McAfee (2014) argue that the future labor market will favor workers with analytical, problem-solving and digital literacy skills, reinforcing the need for continuous education and training programs.

Interestingly, confidence in acquiring these skills varied across respondents. Tanzanian participants demonstrated a higher level of uncertainty about their ability to acquire the necessary technological skills, which aligns with findings from (James Manyika et al. (2018)), indicating that access to digital education and training remains a challenge in developing economies. Policymakers should consider initiatives such as vocational AI training and industry collaborations to bridge the skill gap and ensure equitable workforce development.

The study also examined perceptions of AI's broader economic impact, with 83.3% of participants agreeing that AI s beneficial for the economy. This aligns with research indicating that AI can drive productivity and economic growth, potentially contributing $15 trillion to the global economy by 2030 (PwC, 2020). However, the economic benefits of AI are not evenly distributed. As highlighted in previous studies

(Autor, 2015). AI-driven productivity gains often benefit capital owners and high-skilled workers, while low-skilled workers may experience wage stagnation and displacement.

Governments interventions is crucial in mitigating these disparities. The findings indicate that 90% of participants believe it is important for their government to take action to prevent AI-induced job losses. Countries with proactive AI policies, such as Germany's Work 4.0 initiative (Helana Vieira, 2017), have demonstrated effective models for integrating AI while safeguarding workers, targeted re-employment programs, and AI- specific labor protections should be considered to foster inclusive economic growth.

While this study offers critical insights, certain limitations should be acknowledged. The sample distribution was imbalanced, with a larger representations of Tanzanian respondents, potentially influencing comparative findings. Additionally, the study focused on a snapshot of current AI perceptions, which may evolve as AI adoption and government policies shift. Future research should explore longitudinal effects of AI on employment trends and investigate sector-specific AI impacts to provide more granular policy recommendations.

CONCLUSION AND RECOMMENDATIONS

This study directly examines AI's role in workforce transformation by positioning AI not merely as a disruptive force but as a catalyst for labor market stratification. The findings indicate that AI adoption reinforces existing economic disparities particularly through skill-biased labor shifts. Workers in AI-intensive sectors benefit from augmentation and increased productivity, where as those in industries with limited AI adoption face heightened risks of job displacement. AI's workforce impact is deeply contingent on national policies, industrial readiness, and educational frameworks, with divergent effects observed in economies with varying levels of AI integration.

A report by Statista (2024a) highlights the rising AI adoption rate in Türkiye, with the proportion of enterprises incorporating AI into their operations increasing from 2.7% in 2021 to 4.4% in 2024. Projections suggest that Türkiye's AI's market will experience substantial growth, with an estimated annual increase of 27.94% between 2025 and 2030, culminating in a market volume of approximately $7.37 billion by 2030 (Statista, 2024b). This trend, coupled with the availability of advanced technological infrastructure, suggest a workforce increasingly inclined toward upskilling and AI-driven labor argumentation.

Conversely, Tanzania, an emerging AI adopter, presents a workforce with heightened concerns over job displacement and economic instability, underscoring the digital divide between developed and developing economies. A report by Lloyd's Register Foundation (2022) highlights that 62% of Tanzanian respondents believe AI would mostly harm people in their country, reflecting a widespread skepticism about AI's role in workforce development. This aligns with comparative analysis findings in this study, which suggest that education and familiarity with AI technology play a significant role in workforce confidence regarding AI driven labor transformation. These findings challenge the assumptions of AI-driven labor market uniformity, illustrating that workforce adaptation is contingent upon government intervention, digital infrastructure investments, and sector-specific AI integration policies.

The comparative findings between Türkiye and Tanzania emphasize that AI accelerates workforce polarization rather than equalizing employment opportunities, aligning with the skill-biased technological change framework, which argues that

technological advancements disproportionately benefit high-skilled workers while displacing those in low-skilled sectors (Acemoglu & Autor, 2011). By reinforcing the need for proactive AI workforce policies that prioritize adaptive reskilling frameworks, structural economic safeguards, and equitable AI integration strategies.

The results indicate that AI-driven displacement and augmentation must be understood as context-dependent phenomena, shaped by existing technological infrastructures, workforce readiness, and governmental intervention efficacy. Future research should employ multi-country, longitudinal workforce analyses across multiple economies to assess how AI-driven job market disruptions evolve over time. Utilizing datasets from the World Bank, OECD reports, and national employment databases, alongside econometric labor modeling, could provide deeper insights into automation's impact on wage structures and employment stability. Additionally, adopting a mixed- methods approach that integrates econometric modeling with qualitative workforce interviews would allow for a more comprehensive understanding of AI's evolving role in labor markets. Integrating mixed-methods research with economic modeling could provide deeper insights into automation's impact on wage polarization and structural employment shifts, assessing how labor markets evolve in response to AI disruptions and automation cycles. Further comparative studies should focus on examining how AI workforce policies impact labor market resilience across different economic tiers. Specifically, analyzing the interaction between regulatory approaches, government led AI investments, and private sector innovations could help refine global AI workforce adaptation strategies.

The findings of this study reinforce that AI's impact on the workforce follows a historical pattern of technological disruption and adaptation. Throughout history, major technological revolutions have redefined labor markets, from the mechanization of physical labor during the Industrial Revolution to the automation of clerical work in the digital era. AI represents the next phase in this progression, but unlike previous technologies, it possesses the ability to learn and improve autonomously, enabling it to perform both routine and complex cognitive tasks.

While historical technological advances have resulted in the creation of new industries, AI's capacity for automation at an unprecedented scale introduces a level of disruption that extends beyond low-skilled labor. The study's findings, particularly the high percentage of respondents expressing concerns about job displacement, align

with broader labor market projections that indicate AI's potential to automate up to 52% of manufacturing jobs and 45% of retail positions within the next decade (Hawksworth et al., 2018). This suggests that, although AI will drive economic transformation, it will also accelerate the displacement of workers, particularly in industries where repetitive tasks dominate.

Unlike past technological shifts that created vast new industries, AI's role in job creation remains uncertain. While proponents argue that AI will generate opportunities in fields such as data science, machine learning, and cybersecurity, these roles require specialized skills that the current workforce may not yet possess. This underscores the urgent need for proactive workforce adaptation strategies to mitigate AI-induced unemployment and ensure that workers are equipped with the necessary competencies to transition into new roles.

The findings reveal a paradox in the workforce's perception of AI, while the technology promises increased efficiency, cost reduction, and business growth, it simultaneously also generates heightened concerns about job security and economic inequality. The study found that 78.1% of respondents believe AI will eliminate more jobs than it creates, while 90% expect governments to intervene in preventing AI-driven workforce displacement. This reflects the broader economic debate surrounding AI on whether it will serve as a force for economic expansion or exacerbate unemployment and inequality.

Empirical research indicates that AI-driven automation will contribute significantly to global productivity, with estimates suggesting a $15 trillion increase in the global economy by 2030. PwC, 2020). However, the distribution of these economic benefits remains uneven. Developed economies with advanced AI infrastructure stand to gain the most, while emerging economies with weaker technological foundations may experience greater workforce vulnerabilities. The findings indicate that Tanzanian respondents exhibit higher levels of concern about unemployment than their Turkish counterparts, reflecting disparities in AI adoption and workforce preparedness.

Without targeted policies, AI may widen income disparities, disproportionately benefiting organizations and high-skilled professionals while reducing opportunities for workers in traditional sectors. Governments and businesses must therefore consider

economic measures that balance AI's efficiency gains with workforce stability, including job transition programs, wage subsidies for displaced workers, and incentives for businesses to invest in human-AI collaboration rather than full automation.

A key finding of this study is that, out of 506 respondents, 90.6% (n= 460) recognize the need for greater technological skills to remain competitive in an AI-driven economy. This aligns with existing research emphasizing that the workforce of the future must possess expertise in digital literacy, computational thinking, and human-AI interaction. However, the current education system in many regions remains inadequately prepared to meet these demands.

Traditional models of education were designed for an industrial economy, emphasizing standardized curricula and fixed career trajectories. The rapid advancement of AI challenges these conventions, requiring a shift towards adaptive, lifelong learning frameworks. The study highlights that workers in both Tanzania and Türkiye recognize the need for technological skills, yet access to AI-related training opportunities remains uneven. This reflects a broader global challenge, where the pace of AI innovation is outstripping the capacity of educational institutions to equip students and professionals with the necessary skills.

Governments must therefore integrate AI education into national curricula, ensuring that workers are not left behind in the technological transition. This requires public-private partnerships that enable companies to participate in workforce reskilling initiatives, leveraging AI-driven educational tools to provide personalized and scalable training programs. In developing economies, bridging the digital divide will be essential to ensuring that AI's benefits extend beyond high-income sectors, preventing a scenario where AI-driven industries remain concentrated in technologically advanced regions while lower-income nations experience economic stagnation.

Beyond economic and workforce concerns, AI's increasing role in business decision-making introduces ethical challenges that have significant implications for labor markets. This study highlights growing concerns about AI's use in hiring, employee monitoring, and performance evaluation. Algorithmic bias, a well-documented issue in AI systems, poses a risk to fair hiring practices, as demonstrated

by Amazon's discontinued AI recruitment tool, which exhibited gender discrimination. (Dastin. 2018)

The integration of AI into workforce management also raises concerns about worker autonomy and privacy. AI-powered surveillance systems, predictive performance analysis, and algorithm-driven promotion decisions could lead to an erosion of trust between employers and employees. This study found that workers expect governments to play a regulatory role in ensuring that AI does not result in exploitative labor conditions. Without legal safeguards, AI could enable an unchecked expansion of corporate surveillance, intensify job insecurity, and create a work environment where human decision-making is replaced by opaque algorithmic processes.

Governments and regulatory bodies must establish legal frameworks that ensure transparency in AI-driven employment decisions. This includes mandating explainability in AI hiring models, setting ethical guidelines for AI monitoring tools, and protecting workers' rights to privacy. Companies must also adopt internal AI governance policies that prioritize human oversight in decision-making processes, ensuring that AI serves as an enhancement to human labor rather than a replacement.

The comparative analysis of workforce perceptions in Tanzania and Türkiye offers insights into how AI's impact varies across economic landscapes. In Türkiye, a more technologically developed economy, respondents expressed concerns about high-skill job losses, reflecting AI's expansion into fields such as finance, law, and software engineering. In contrast, Tanzanian respondents were more concerned with overall job availability, highlighting the challenge of AI adoption in economies that have not yet built robust AI infrastructure.

These findings suggest that AI's workforce implications will not be uniform across countries. Developed economies may experience a transition where high-skilled jobs are automated, forcing knowledge workers to compete with AI-powered analytical systems. In contrast, emerging economies must address the dual challenge of building AI capabilities while ensuring that automation does not exacerbate existing employment vulnerabilities.

AI governance must therefore take a globalized approach, ensuring that workforce protections and economic policies are not confined to technologically

advanced nations. The implementation of standardized labor rights, AI ethics regulations, and international workforce adaptation programs could prevent AI from becoming a force that deepens global economic inequalities.

While this study provides valuable insights into workforce perceptions of artificial intelligence in Tanzania and Türkiye, several limitations must be acknowledged.

A key limitation of this study is the unequal distribution of participants, with a significantly higher number of respondents from Tanzania compared to Türkiye. This imbalance may have skewed cross-country comparisons, particularly in capturing nuanced workforce perspectives in Türkiye. Given that Türkiye has a higher level of AI adoption, a larger and more proportionate sample could provide a more accurate representation of workforce attitudes in both economies.

Additionally, limiting the study to two countries constrains its applicability to broader global workforce trends. Future research should consider a more diverse geographic sample, incorporating regions with varying AI adoption rates to provide a comprehensive international perspective.

Furthermore, this study relied on quantitative survey data, which, while useful for identifying workforce trends, limits the depth of responses. Closed-ended questions restrict participants from elaborating on their views, leading to a potential loss of nuanced insights into AI's workforce impact. Surveys are susceptible to social desirability bias, where participants may under report concerns about AI or exaggerate their adaptability due to societal expectations. To mitigate this in future research, a mixed-methods approach combining quantitative surveys with in-depth qualitative interviews would provide a more holistic understanding of workforce concerns and adaptations to AI.

AI technology is rapidly evolving, and its workforce impact is subject to continuous advancements and policy shifts. This study captures workforce perceptions at a specific point in time, but new AI capabilities, regulatory policies, and corporate AI adoption strategies could significantly alter workforce attitudes in the near future. For instance, the rise of generative AI models and increased automation in white-collar jobs (Eloundou et al., 2023) may lead to greater workforce disruptions than initially anticipated. Future research should incorporate longitudinal studies that track

workforce perceptions over time, allowing for a dynamic assessment of AI's evolving role in employment.

Future research should incorporate a wider range of countries with different AI adoption levels, including high-income nations, emerging economies, and low-income regions. This will provide a more comprehensive global perspective on workforce adaptation to AI and allow for comparative policy analysis on AI workforce strategies.

To address the limitations of a survey-based approach, future studies should integrate qualitative methodologies, such as semi-structured interviews, case studies, and focus groups. This will allow researchers to capture the lived experiences of workers, providing deeper insights into job displacement fears, reskilling challenges, and AI-induced work transformations.

Governments and educational institutions must prioritize AI focused workforce reskilling programs, particularly in developing economies. AI-driven job displacement is most pronounced in routine-based occupations (Hawksworth et al., 2018), necessitating a shift toward lifelong learning models that focus on digital skills and human-AI collaboration.

Additionally, policymakers should implement AI workforce protections, such as regulations on AI-driven hiring decisions, workplace monitoring limits, and job transition funding to mitigate economic inequalities arising from AI adoption.

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APPENDICES

Appendix 1

T.C.
İSTANBUL GELİŞİM ÜNİVERSİTESİ REKTÖRLÜĞÜ
Etik Kurul Başkanlığı

ETİK KURUL KARAR ÖRNEĞİ

Toplantı No	Toplantı Tarihi	Toplantı Saati	Toplantı Yeri
2024 – 16	30.10.2024	14.00	Rektör Yardımcısı Odası

KARAR NO: 2024-15-97: Lisansüstü Eğitim Enstitüsü, İşletme (İngilizce) Tezli Yüksek Lisans Programı 231432370 numaralı Motlal Leonard KİVUYO' nun, Dr. Öğr. Üyesi Aslıhan ÜNAL' ın danışmanlığında yürüten "The Impact of Artificial Intelligence on Workforce: A Descriptive Survey Research", "Sessiz İstifanın Muhasebe Meslek Mensuplarının Etik İklim Algıları ve İşten Ayrılma Niyetleri Üzerine Etkisi" konulu çalışması görüşüldü yapacağı anket sorularının, etik kurallara uygun olup olmadığını tespit etmek üzere, İGÜ Etik Kurulumuzun 20.09.2024 tarih ve 2024-14 sayılı toplantısında, İGÜ Etik Kurul Yönergesinin 12(1) maddesine göre değerlendirme yapmak üzere görevlendirilen öğretim elemanlarının raporları incelenmiş olup, ilgili çalışmada yer alan bilimsel araştırmanın etik kurallara uygun olduğuna oy birliği ile karar verildi.

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Appendix 2

Survey Questionnaire

The following survey questionnaire was adapted from the Heldrich Center for Workforce Development (2024) and was used in this study to assess public perceptions regarding the impact of artificial intelligence (AI) on the workforce:

1. What is your age?

18-24 years old

25-34 years old

35-44 years old

45-54 years old

55-64 years old

64+ years old

2. What is your gender?

Male

Female

3. What country do you live?

Tanznaia

Türkiye

4. What is the highest level of school you have completed or the highest degree you have received ?

No schooling completed

High school graduate

Bachelor's degree

Master's degree

PhD degree

5. Which of the following best describes your current employment situation? If you are a student, please pick the category that best describes you.

Employed working full-time hours

Employed working part-time hours

Unemployed and looking for work

Unemployed and not looking for work

Retired

6. How confident are you that if you lost or wanted to leave your current job, you could find another job as good or better?

Not at all confident

Not too confident

Neither confident nor unconfident

Somewhat confident

Very confident

7. Thinking about the next three to five years how likely are you to be at the same place of work you are now?

Not at all likely

Not too likely

Neither likely nor unlikely

Somewhat likely

Very likely

8. How concerned are you about the current unemployment rate?

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

9. How concerned are you for the job security of those currently working

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

10. How concerned are you about your own job security?

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

11. How concerned are you about the job market for those looking for work?

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

12. How concerned are you about the ability to financially support yourself?

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

13. How concerned are you about the impact of artificial intelligence on jobs (artificial intelligence, or AI, is the use of machines or technology to complete tasks by simulating human intelligence)?

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

14. How concerned are you about the cost of living?

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

15. How concerned are you about the possibility of an economic downturn or recession in the next 12 months?

Not too concerned

Neither concerned nor unconcerned

Somewhat concerned

16. Would you say your country's unemployment rate is near the lowest it has been in 50 years?

No

Not sure

Yes

17. Do you think you will need more technological skills to achieve your career goals?

Disagree

Neither agree nor disagree

Agree

18. Do you think new technologies eliminate more jobs than they create?

Disagree

Neither agree nor disagree

Agree

19. How much have you heard or read about the impact of artificial intelligence (AI) on workers and jobs in your country?

Nothing at all

A little

A lot

20. To what extent would you say artificial intelligence may or may not change the nature of jobs in your country?

Nothing at all

A little

A lot

21. Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that you will need more technological skills to achieve your career goals?

Not confident

Neither confident nor unconfident

Confident

22. Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that your job/occupation will be eliminated?

Not confident

Neither confident nor unconfident

Confident

23. Thinking about the use of AI by employers now or in the future, how concerned are you about the possibility that employers use artificial intelligence when making decisions about hiring and/or promoting workers?

Not confident

Neither confident nor unconfident

Confident

24. Artificial intelligence will eliminate more jobs than it will create?

Disagree

Neither agree nor disagree

Agree

25. Higher-income workers are more likely to lose their jobs because of artificial intelligence, compared to lower-income workers?

Disagree

Neither agree nor disagree

Agree

26. I will need more technological skills to achieve my career goals?

Disagree

Neither agree nor disagree

Agree

27. Artificial intelligence is good for the economy?

Disagree

Neither agree nor disagree

Agree

28. How important, if at all, is it that the government in your country take action to ensure that artificial intelligence does not cause workers to lose their jobs?

Not important

Neither important nor unimportant

Important

RESUME

Personal Information

Surname, name : Motlal Leonard Kivuyo

Nationality : Tanzanian

Education

Degree	Education Unit	Graduation Date
Master	Istanbul Gelisim University Business Administration	
Bachelor	Liaoning Communication University Multi-Media Marketing and Management	
High School	(Diploma in Business administration)	

Work Experience

Year	Place	Title
	-	-
	-	-

Foreign Language : English & Swahili

Publications : NONE

Hobbies: Football & Swimming