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Influence on Employee Productivity and Job Satisfaction in the Dynamics of Human-AI Collaboration in Modern Work Environments Among Service Sector Organizations in Sri Lanka

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Abstract

This research examines the long-term implications of human-AI collaboration within service sector organizations in Sri Lanka. While previous studies highlight the immediate effects of AI on productivity and job satisfaction, this study addresses a critical gap by focusing on the Sri Lankan economy, where AI increasingly shapes organizational environments and drives innovation over time. The primary objectives are to explore the evolving dynamics of corporate culture, innovation climate, employee adaptability, and leadership strategies within organizations engaged in sustained human-AI collaboration. Using qualitative thematic analysis, the study provides a comprehensive understanding of the intricate relationship between humans and AI in the workplace, extending insights beyond immediate outcomes. By developing the temporal dimension, it delves into the complexities and challenges faced by organizations as they navigate prolonged interactions with AI technologies. This research significantly advances the knowledge area of human-AI collaboration, offering nuanced perspectives on the interplay of human and technological capabilities. Its findings are poised to inform organizational leaders, policymakers, and researchers about the strategic implications of integrating AI in service sector settings. By contributing to the discourse on the future of work, the study addresses the broader implications of AI in shaping sustainable and innovative workplaces.

Key Words: *Human-AI Collaboration, Employee Productivity, Job Satisfaction, Service Sector.*

1. Introduction

The rapid pace of technological innovation is continuously reshaping the parameters of contemporary work, with Artificial Intelligence (AI) leading the charge as a revolutionary force. Such a technological evolution is changing how work gets done and redefining the bond between humans and intelligent systems in workspaces (Malik et al., 2022). The rise of AI and its potential to transform industries is undeniable. It is increasingly evident that for service sector organizations in Sri Lanka, an emerging economy facing global competition, digital transformation challenges, and a rapidly growing technology-driven environment, AI is no longer a futuristic concept, but an essential integration into day-to-day processes (Ammeran et al., 2023). AI adoption in Sri Lanka's service sector showcases its transformative potential across industries such as banking, healthcare, retail, tourism, and public services. Banks leverage AI for customer service and fraud detection, while healthcare providers use it for accurate diagnostics (Madanayake & Yapa, 2024).

Retailers and e-commerce platforms enhance customer experiences through personalized marketing and inventory optimization, and the tourism industry integrates AI for dynamic pricing and guest services. Public sector initiatives like AI-driven customs processes highlight efficiency gains (Fairooz & Wickramasinghe, 2019). However, challenges persist, including workforce skill gaps, high implementation costs, resistance to change, and ethical concerns (Çıdık & Boyd, 2022). Despite these hurdles, AI adoption offers a significant competitive advantage, enabling improved efficiency, enhanced customer satisfaction, and data-driven decision-making, positioning Sri Lanka's service sector to thrive in a technology-driven global economy. This paper explores the complicated dynamics of human-AI collaboration, mainly focusing on its influence on employee productivity and job satisfaction. These dynamics involve balancing the benefits of AI, such as increased efficiency, automation of repetitive tasks, and enhanced decision-making, with potential challenges like job displacement fears, skill adaptation requirements, trust issues, and ethical concerns. Additionally, human-AI collaboration can impact organizational culture, workflows, and team dynamics, requiring careful integration to ensure positive outcomes like improved productivity and job satisfaction without alienating employees or compromising their well-being. By addressing these dynamics, the research emphasizes the broader implications of AI in shaping the future for better involvement and alignment of the topic.

The importance of this study is underscored by the growing adoption of AI technologies in service sector organizations worldwide. In Sri Lanka, the service sector plays a pivotal role in the economy, contributing significantly to GDP and employment. According to the Central Bank of Sri Lanka (2023), the service sector played a pivotal role by contributing 56.9% to the country's GDP in 2021, surging to 60.5% in 2022. This robust growth underscores the sector's increasing significance in driving economic activity and prosperity. However, as these organizations increasingly embrace AI to streamline

operations, improve decision making, and enhance customer experiences, the interplay between human employees and AI systems introduces opportunities and challenges (Strusani & Houngbonon, 2019). While AI can augment human capabilities and reduce repetitive tasks, its implementation raises critical questions about its impact on employee roles, autonomy, morale, and overall job satisfaction. Understanding these dynamics ensures that integrating AI technologies creates a balanced and mutually beneficial partnership between humans and machines (Kazeem et al., 2023).

Despite the global discourse on AI's transformative potential, there is a notable research gap in examining the specific implications of human AI collaboration within the unique socio economic and cultural context of Sri Lanka. These include workforce adaptation to varying technical literacy levels, cultural influences on trust and acceptance of AI, economic constraints on AI implementation, and unique perceptions of job satisfaction and security. For example, Sri Lanka's hierarchical workplace culture and limited organizational budgets significantly influence how AI is integrated and perceived, making the outcomes context-specific rather than general (Weerabahu et al., 2022). Existing studies often focus on developed economies, where technological infrastructure and workforce readiness are significantly advanced (Zhang et al., 2023). However, the challenges and enablers of AI integration in emerging economies like Sri Lanka differ substantially. Resource constraints, workforce adaptability, and organizational readiness necessitate a localized exploration of how AI affects employee productivity and job satisfaction.

This study focuses on the impact of human-AI collaboration on employee productivity and job satisfaction in Sri Lanka's service sector. While AI offers global opportunities for efficiency and innovation, its integration also introduces challenges such as adapting to new roles and maintaining job satisfaction. Narrowing from this broader context, the research explores how AI reshapes workplace dynamics in Sri Lanka's unique socio-economic and cultural environment. This study is guided by the primary research question: How does human-AI collaboration influence employee productivity and job satisfaction in service sector organizations in Sri Lanka? This study examines the long-term influence of human-AI collaboration on employee productivity and job satisfaction within Sri Lanka's service sector. It aims to address a critical gap by exploring how sustained interactions with AI impact corporate culture, innovation climate, employee adaptability, and leadership strategies. By focusing on the dynamics of human-AI integration, the study contributes to understanding how emerging economies like Sri Lanka can leverage AI to foster productivity and create sustainable, innovative workplaces.

This research employs a qualitative thematic analysis approach to address the research gap and achieve the study's objectives. This method is well suited for exploring the nuanced and context specific dynamics of human AI collaboration in Sri Lanka's service sector. Data collection will be conducted through semi structured interviews with employees and management across various organizations within the service sector. These interviews will provide rich, descriptive accounts of participants'

experiences, perceptions, and attitudes toward workplace AI integration. Thematic analysis will systematically identify, analyze, and interpret patterns (themes) within the qualitative data, offering insights into the enablers and challenges of human-AI collaboration. This approach allows for a deeper understanding of the socio cultural and organizational factors shaping the interplay between human workers and AI systems.

The objectives of this study are twofold. First, it seeks to explore how prolonged human-AI collaboration influences employee productivity and job satisfaction within the unique socio-economic and cultural context of Sri Lanka. Second, it aims to understand the evolving dynamics of corporate culture, innovation, and leadership strategies as organizations adapt to sustained interactions with AI technologies. Given the accelerating pace of AI adoption in the workplace, this research is timely and essential. The study addresses a critical knowledge gap by focusing on the Sri Lankan service sector. It provides valuable insights for policymakers, business leaders, and scholars seeking to navigate the complex terrain of human-AI collaboration. Through empirical evidence and theoretical contributions, this paper aspires to advance our understanding of the evolving nature of work and the pivotal role of human-AI collaboration in shaping a sustainable and inclusive future.

2. Literature Review

Artificial Intelligence (AI) is defined as "the science and engineering of making intelligent machines." This definition emphasizes AI as a multidisciplinary field focused on creating systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, and problem-solving (Bartneck et al., 2021). AI uses technology and machines/ systems to work and collaborate similarly to humans through advanced and innovative technology adaptation. AI will help increase organizational operations' effectiveness and achieve operational excellence. The use and adaptation of AI are expanding, and we can see the adaptation in many different organizations in different areas and business processes. (Shaikh et al., 2023). The two extreme ends of AI and human collaboration are considered non-existent, and the other is entirely synergy. Machines and AI technologies are regarded as performing better tasks in areas such as handling very complex tasks and executing complex and heavy computations. In contrast, humans, on the other hand, are good at decision-making, social contact and emotional-based thinking and decisions. As a result, both AI and humans are dependent on each other, and it is evident that human guidance is essential towards AI since it is proven that there is a lack of data confirming that machines can make the correct predictions and decisions where there are emotions and involvement. (Sowa et al., 2021).

There are studies done on the collaboration and involvement between AI – humans, and many of these studies have highlighted that proper work engagement is a supportive factor for increased work satisfaction, and good cooperation between humans and AI and technology has resulted in a positive

outcome with increased self-satisfaction. Several studies have explored the positive outcomes of human-AI collaboration, particularly in enhancing work engagement and satisfaction. Study found that AI collaboration can increase creativity and job satisfaction, particularly for higher-skilled employees, by promoting a positive work environment (Tortorella et al., 2024). Furthermore, studies suggests that AI adoption positively influences various dimensions of employee engagement physical, cognitive, and emotional leading to more fulfilling work experiences (Patil, 2024). These findings collectively underline the importance of effective human-AI collaboration in driving both employee engagement and satisfaction.

However, human physical and mental well-being must be handled in organizations that have massively adopted AI and digital transformation. (Trenerry et al., 2021). AI is widely used for data analysis and operations management in various sectors. For example, in the healthcare industry, different technology and AI-powered systems and applications have helped clinical operations schedule surgeries, analyze data and provide objectives, diagnose diseases accurately, etc. In retail and online shopping, AI has helped to identify patterns and support shoppers based on their customized habits. In return, these have helped provide custom designs for consumers, enabling them to maintain their inventory efficiently. (Malik et al., 2022b).

Various studies and newer studies also shows that AI helps make certain areas work efficiently, increase creative thinking, support context awareness, improve self-organization abilities, make reasonable decisions and communicate clearly and concisely (Patil, 2024). These are outputs of multiple technologies such as AI, big data and robotics that have supported the drive of the fourth industrial revolution. The rationale behind these technologies is not to replace humans but to facilitate human intelligence and knowledge to develop and process further. (Malik et al., 2022). A recent survey by the IBM Institute on business values within a sample of 5000 organizations worldwide has shown some exciting results. 93% of organizations are evaluating and considering using AI. Within this set, 60% of the organizations fear performing the adaptation, thinking there could be possible issues and unresolved responsibilities might occur. Another 63% say they don't have the proper knowledge to develop and manage AI within the organization after the implementation. It has been proven that even though employees and workers are willing to adopt and leverage AI technology, workplaces are not ready and allowed to make these adaptations. (Rožman et al., 2023).

This study further highlights that 59% of the leaders believe that AI could increase operational efficiencies, 50% believe that it could expedite decision-making, 45% believe AI could help to reduce cost, and 37% think it could support and enhance employee experience. However, 90% of the leaders think and agree that they could not adopt AI to their job roles in these rapidly changing dynamics. As a company, prioritizing and enhancing the workforce facilitating AI is needed to spearhead meaningful outcomes and initiatives for growth and efficiency. (Rožman et al., 2023).

2.1 Emergence of Artificial Intelligence

From all the technological changes and advancements, AI is considered the most revolutionized and disruptive innovation in history. Technology has been there since 1956, with massive changes and advancements in recent decades. AI-powered tools and systems can now match natural language processing (NLP) and vision capabilities with those of humans. Humans are traditionally confirmed to have two cognitive and physical abilities, while humans are retained as the edge of mental skills. These developments will have a significant influence on humanity as a whole. (Thillaivasan & Wickramasinghe, 2020).

AI can be put into two main categories: general AI and narrow AI. General AI can think and act independently, whereas narrow AI refers to machine and system learning. The existence of general AI is a question where thin AI technologies and applications would supplement administrative capabilities and cognitive bias. (Thillaivasan & Wickramasinghe, 2020).

2.2 Satisfaction Through Artificial Intelligence (AI)

In modern workplaces, one of the main competitive advantages is job satisfaction and motivation. In a nutshell, motivation is considered an internal psychological force that pushes individuals to work. In modern workplaces, areas such as training, communication methods, counselling and myths of motivation. Factors such as recognition, growth opportunities, and freedom to work and make decisions are current motivation factors. Increased motivation and satisfaction are essential to retain employees and decrease employee turnover. Technological advancements and improvements can help increase employee motivation and job satisfaction in modern dynamics. (Pratt et al., 2021).

Studies have shown that AI can help employees massively by automating manual tasks and tedious, repetitive work. These would also help perform data analysis and help make decisions, enabling more efficient and accurate outcomes. When serving customers, AI could provide insights into customer behaviours and help serve the customer better with solutions customised for the requirement. AI-powered tools could help and support employees in managing their assigned work more efficiently, resulting in happy employees with increased job satisfaction. (Bano Memon & Khan Keerio, 2023).

AI has made a significant impact in the realm of performance and employee engagement and has become a widely discussed and looked into area. Studies have shown that AI has positively influenced employee engagement, increasing career competitiveness, job performance, and retention. AI-based platforms further help with strategic human resource management, including employee engagement, professional and personal development and job satisfaction. In the current volatile, uncertain, complex, and ambiguous (VUCA) world, AI can positively influence the implementation of automation, eliminating routine tasks, reducing workload, and increasing employee retention. (Bano Memon &

Khan Keerio, 2023).

2.3 Four Intelligences

To provide services, humans and machines get involved in delivering a superior service for a customer. Four types of intelligence work with AI. Those are mechanical, analytical, intuitive, and empathetic. All four of these intelligences are considered as both ordinary and parallel. They are regarded as familiar since some processes are challenging to mimic through AI and technology and could take longer. Some technologies are similar since AI could reach a specific intelligence level and coexist to provide services. (Huang & Rust, 2018).

2.3.1 Mechanical Intelligence

Mechanical intelligence is considered the ability to automate routine and repetitive tasks. This is not considered a unique ability but is an essential element for many streamlined everyday tasks. Mechanical processes don't require much creativity from humans since they can be performed with less thought and energy. Services such as call center agencies, servers, and taxi drivers are considered mechanical skilled labour. Robotic AI has a relative advantage over humans in extreme consistency and responds based on the environment in a more relevant and reliable method. (Huang & Rust, 2018).

Robots are considered one typical application to mimic human automation, and AI in mechanical engineering is designed to have learning and adaptive ability to keep consistency. These are rule-based, need prior knowledge, and use different variabilities in service environments. Since the tasks are repetitive, the knowledge and learning are more based on the task and infrequent in many instances. Intelligent algorithms are used to understand these elements and implement automation and AI into the functions. (Huang & Rust, 2018).

2.3.2 Analytical Intelligence

Analytical intelligence is the ability to process data and information for problem-solving and further learning from the findings. Elements such as mathematical skills, data and information processing, and logical reasoning are part of this type of intelligence. Services and industries such as computer-based technologies, mathematicians, data scientists, engineers, etc., would heavily use analytical intelligence for data processing and analytics. (Huang & Rust, 2018).

Machine learning (ML) and analytics are the major adoptability of this type. Without manual programming, different types of machine learning and typical analytical types are used for finding insightful information using this type. This intelligence type is needed to perform complex but systematic and consistent data- and information-intensive tasks. This is considered one of the most widespread and profound implementations so far that machines and technology can process and

synthesise large amounts of data based on learning. (Huang & Rust, 2018)

2.3.3 Intuitive Intelligence

Intuitive intelligence is thinking creatively and adjusting effectively for different and unique situations. It is wisdom based on both holistic and experienced based. People involved in marketing, such as management consultants, doctors, lawyers, senior executives, etc., use this type of intelligence. The critical characteristic of intuitive AI is understanding based on the setup and environment to distinguish and make decisions. A person could ask a fundamental question from this intelligence type and receive responses as you talk to an actual human who would share millions and billions of pieces of knowledge. (Huang & Rust, 2018).

Intuitive AI keeps learning from mistakes and patterns, which would result in not making the same or similar mistakes repeatedly. IBM has developed many business-to-business (B2B) applications using this type of AI and has gained a competitive advantage in the industry. Intuitive intelligence can help streamline complex, holistic, chaotic and contextual tasks. Examples include mining hidden data and meaning out of functions, providing a complicated travelling plan based on a personal need, and luxury service provisioning based on the needs and the finances of the outputs that could be gained using this type of AI. (Malik et al., 2022b).

2.3.4 Empathetic Intelligence

Empathetic intelligence can recognize, understand, and respond to other people's emotions and influence others based on these abilities. Humans' social, interpersonal, and sensitive needs require training in this kind of intelligence with a proper skill set. Outputs such as relationship building, negotiation, charisma and balance could be prepared and gained using this technology. Empathetic AI could describe an environment with a feel and behavior based on the setup and outlines. (Huang & Rust, 2018)

Empathetic AI is considered one of the most advanced AI; some applications are very few, and only a few have succeeded. Replica is a service that supplies artificial people/ bots to act like humans and support the psychological comfort and well-being of humans. Sophia is another service that recently convinced the Saudi government to award citizenship to an average human. General empathetic tasks are high touch and have a high social presence. These tasks are social, emotional and interactive. (Huang & Rust, 2018)

2.4 Human – AI Collaboration

AI's productivity efficiency and benefits could only be realized from intentional and functional

collaboration between humans and technologies. The future of elements is mainly discussed in terms of human–AA collaborations that would essentially involve the applications of AI to complement or augment human skills and elements. AI with human collaboration would have many applications, including providing feedback, assisting in using digital aspects, helping to work and improve customer satisfaction, identifying new offerings and ways of work, etc. These benefits and outcomes could be categorized at individual, group and organizational levels. (Bankins et al., 2023)

2.4.1 Individual Level

The nature of Human and AI collaboration at the individual level is outlined and shaped by many different factors, including attributes in AI, the effects of AI on tasks and jobs, how is the experience of the individuals, and the attitudes of employees toward AI. Using friends and having higher satisfaction with technology leads to favorable outcomes and increased job satisfaction and productivity. Collaboration is improved when workers trust AI, understand its nature and purpose, and develop skills to use and manage AI favourably. (Bankins et al., 2023)

The way and method AI has changed workers' jobs, their designs, the demands associated with the resources, and the effect on human nature–AI collaboration changes based on these factors. Enhanced innovations could be seen when AI was applied to support job autonomy, processing things faster to gain better outputs. AI could help reduce mental and physical fatigue and develop positive emotions towards work and company. Workers with less knowledge in the workforce are likely to use these technologies more but could also have less ability to use the AI outputs for job tasks effectively. (Bankins et al., 2023)

Individuals' level of performance has a direct influence on collaborating effectively with AI and systems. It's proven that middle-ranked performers achieve the best outcomes from AI, and lower-ranked employees would be able to use the technology correctly. Findings show that AI assistance to workers can generate fear of displacement from the technologies that would stifle potential collaboration and increase productivity. Overall, it's proven that context-specific and employee-centric presentations and designs give an output to maximize how AI can support and help employees across different levels of experience and performance. (Bankins et al., 2023)

2.4.2 Group Level

At a group level, occupational identity shows a sense of collectivity in the boundaries of one's expertise and involves inheriting digitalization and automation towards the workplace. It is demonstrated that influential groups use digital technologies and AI as a sensemaking tool to improve and shape their work, using new technologies to gain better outputs. In a group with clearly defined goals and identities, those groups are shown as digital experts compared to an average person using manual systems and

work tasks. The risk acclimated with delivering tasks and goals in a group is also shown less than in manual routines when using AI and new technologies. (Bankins et al., 2023)

2.4.3 Organisational Level

Several organizational factors and elements pressure human–AA collaboration to work. In a broader term, supportive and innovative cultures of organizations to support cultures and climate facilities use AI. These kinds of organizations encourage the formation of technological changes by changing employees' fear of using AI to gain positive outcomes with innovative behaviours. HRM practices and policies must also be adopted and custom-tailored to foster the use of AI and new technologies to perform day-to-day business-as-usual tasks within an organization. (Bankins et al., 2023)

Correctly enabled organizational cultures, work patterns, and norms will influence workers' collaboration with AI. The same AI technology applied to different organizations in the same domain would provide different outcomes. Implementing AI could generate an "algorithmic cage" for the employees in a bureaucratic organization, increasing the resistance to using AI. In contrast, organizations that would encourage the use of technologies would generate an "algorithmic colleague" that would support humans with support for judgement and decision-making. Proper alignment in areas such as alignment between work routines, performance measurement, and support for leaders would be an advantage to facilitate human. – AO collaboration that would result in increased motivation and self-satisfaction. (Bankins et al., 2023)

2.4.4 Emotional Intelligence (EI) and Artificial Intelligence (AI)

In many empirical studies and literature, EI and AI are considered key focused elements. EI has a direct impact on employee retention and performance. Furthermore, AI has been proven to play a significant role in employee performance, training, and strength building. On top of AI, it benefits EI and a happy work-life balance. Incorporating AI to improve EI would result positively in these areas. This could be achieved by adopting AI to increase and boost employee emotions. EI will bring a competitive advantage within modern workplaces involving video robots, voice canoes and anthropomorphic robots. (Walter, 2023)

2.5 Human Capital Management with AI

Human capital management has taken a priority and a key focus in today's dynamics and rapidly changing landscapes, enabling a pivotal role in achieving and gaining strategic objectives. The connectivity between AI and human capital management shows a paradigm shift in how businesses recruit, develop and retain their key talent. In these changing environments, human capital management is a critical priority. Incorporating AI into human resource strategies shows a transformative trend and

offers vital themes and findings in several areas. (Bashynska et al., 2023)

AI-driven talent acquisition and recruitment would help quickly capture the correct resources based on the job opening. HR professionals could select the right candidate, enabling the best output for the organization. One of the other essential aspects is employee performance; AI-powered performance management systems would allow real-time and accurate feedback to the employee and help groom the employee further to close the gaps. The push for an innovative and sustainable economy implies the support of AI. Incorporating AI to increase effectiveness could also address general ethical considerations and challenges. (Bashynska et al., 2023)

Current dynamic and modern workplaces must take a multifaced approach when integrating AI into human capital management. Predictive analysis is another critical component that could be used to forecast the workforce, recognize skills and develop strategies for employee development. AI-driven predictive analysis could empower organizations to decide about training, employee upskills, and succession planning. These similar areas could increase employee satisfaction and result in higher employee performance. NLP could be used to understand employee engagement, cultural dimensions, customer feedback, and how to improve performance based on these data. (Huang & Rust, 2018)

As some real-life examples, Unilever uses AI for its hiring process to streamline and save time for worldwide recruitments, Siemens uses AI-driven employee development systems to provide personalized training and development plans, and Google's Project Oxygen uses AI for employee performance and management. L'Oreal uses an HR chatbot to handle HR-related queries and operation tasks related to HRM. Coca-Cola leverages AI to align sustainability goals with human capital management to complete its sustainability initiative. These studies showcase that AI could be used diversely across human capital management, and the power of AI could be used to optimise capital strengths and develop a competitive workforce. (Huang & Rust, 2018)

2.6 Effect of AI on Wages

AI and robotics have developed in mainly two distinct scientific and technological fields over a more extended period. There is a difference between wages between skilled and unskilled workers in any industry at any level. Intelligent machines and technologies will replace humans or lower wages, resulting in low income for the individual and an impact on the economy. In contrast, since AI and technology could replace humans to perform routine work, people with good skills who would not perform everyday tasks could receive better wages. (Schwabe & Castellacci, 2020)

It is proven that high-skilled labour with unique skills has seen an increase in wages, and middle-skilled workers with average skills have yet to see a rise in wages since they mostly perform routine tasks. This is seen in many different types of countries worldwide. Further, personnel involved in service-providing

occupations with manual and communication functions are not easily replaced by a machine and increasing wages. Data has proven that the overall negative effect of introducing robots with AI has been more substantial till now with increased productivity and outputs. (Schwabe & Castellacci, 2020)

2.7 Fear of Replacement

There is a fear among the workers that with the introduction of robots and AI technologies, intelligent machines and technologies could likely replace some workers shortly. Similar to wages, the workers who perform routine tasks can be replaced by robots and automation since those tasks are straightforward to automate. Highly skilled workers usually work with knowledge while following education and expertise. Workers at this level have less chance to be replaced since those could hurt the company. However, there is more peer effect and pressure for this type of employee and worker in an organization. (Giuntella et al., 2023)

3. Methodology

This study employs a qualitative research design to explore the complex dynamics of human-AI collaboration and its influence on employee productivity and job satisfaction in Sri Lanka's service sector. The qualitative approach is particularly suited for this research as it enables an in-depth exploration of subjective experiences, perceptions, and contextual factors that quantitative methods may overlook. This design aligns with the study's objective to capture the multifaceted and localized nature of human-AI interactions within service-oriented organizations. Furthermore, qualitative research facilitates a deeper understanding of how cultural and economic specificities shape the adoption and impact of AI technologies within this sector.

Thematic analysis is a widely used qualitative research method, originally developed by Braun and Clarke (2006). It is a flexible and widely applicable approach that focuses on identifying, analyzing, and reporting patterns (themes) within qualitative data (Braun & Clarke, 2006). This approach is well-suited to uncovering insights into the interplay between human and AI collaboration, particularly in environments where technological integration is influenced by organizational culture, employee adaptability, and resource availability. Thematic analysis provides the rigor needed to derive meaningful conclusions from rich narrative data while ensuring that the findings remain grounded in the lived experiences of the participants.

Participants were chosen using purposive sampling to ensure a diverse representation of roles and perspectives across the service sector. This sampling strategy focused on individuals with direct exposure to AI-enabled processes to capture relevant and varied insights. The study included frontline employees and operational staff who engage directly with AI in their daily tasks, managers and team leaders who oversee AI-driven workflows and navigate human-AI collaboration dynamics, and

decision-makers and technical experts who are involved in implementing and optimizing AI systems. This diversity in representation ensured a comprehensive understanding of how AI impacts both individual roles and broader organizational workflows, addressing the research objective of capturing both strategic and operational perspectives.

The fieldwork, conducted over two months, employed semi-structured interviews and focus group discussions as the primary data collection methods. Semi-structured interviews provided the flexibility to delve into individual experiences while allowing for the emergence of unanticipated themes. A total of 20 interviews were conducted across 10 service sector organizations, encompassing a range of urban and semi-urban settings to ensure contextual diversity. In addition to individual interviews, focus group discussions involving 5-8 participants per group were conducted to explore team-level dynamics and collective reflections. These discussions were particularly effective in uncovering shared experiences and fostering insights into the collaborative aspects of human-AI interactions.

To create a conducive environment for open dialogue, all interviews and discussions were conducted in professional yet informal settings. Sessions were audio-recorded with participant consent and transcribed verbatim to preserve the richness of the data. Observational notes on non-verbal cues and contextual factors were also taken to provide a fuller understanding of the discussions. This methodological rigor ensured that the data collection process was both thorough and sensitive to the complexities of the research topic.

Confidentiality was maintained by anonymizing all data, and participants were assured of their right to withdraw from the study at any stage. These measures fostered trust and encouraged participants to share their experiences candidly, enhancing the depth and reliability of the data collected. The methodological approach adopted for this study was instrumental in uncovering the nuanced dynamics of human-AI collaboration, providing rich insights into its implications for employee productivity and job satisfaction in the Sri Lankan service sector.

4. Data presentation

Semi-Structured Interviews: Semi-structured individual interviews were conducted with 23 diverse groups of participants. The semi-structured format allows for flexibility, allowing participants to express their experiences and perspectives freely. Interview questions were designed to elicit detailed narratives about their interactions with AI, challenges faced, and perceived impacts on productivity and job satisfaction. A mix of face-to-face and virtual video interviews was conducted where, on average, each interview took about 45 minutes. A participation confirmation document was shared before the interviews to confirm they were volunteer participants.

The participants were from different age groups, occupation types, designations and years of experience. The participants ranged in age between 28 – and 58, with a gender ratio of 6 females and

sixteen males. The job experience varied between 5 years to 36 years. Some participants had experience working in various job roles in multinational organisations and different countries worldwide. The format of the discussion in qualitative research is framed around the central themes and objectives of the study, focusing on the participants' experiences with human-AI collaboration. The questions guiding the interviews are designed to explore the nuanced impact of AI on employee productivity and job satisfaction, drawing on themes from the literature and the research objectives. Key questions might include how AI has affected job responsibilities, the role of training in adapting to AI technologies, and the challenges and opportunities encountered in working with AI. The questions are also shaped by the organizational context and the cultural environment in which AI is implemented, ensuring that the data collected is meaningful and aligned with the study's goal of understanding the dynamics of human-AI collaboration in Sri Lanka's service sector. By using semi-structured interviews or focus groups, the discussion remains flexible, allowing for deeper insights while ensuring the focus remains on the research objectives.

Focus Group Discussions: Multiple physical and virtual focus group discussions were organized to capture collective insights and shared experiences. Group dynamics were leveraged to encourage participants to elaborate on their interactions with AI, fostering a deeper exploration of collaborative dynamics and team-level impacts. Data collection continued until thematic saturation was achieved, ensuring a comprehensive understanding of the themes and patterns related to human-AI collaboration was captured.

5. Data Analysis

As Braun and Clarke (2006) outlined, thematic analysis was employed to identify, analyze systematically, and report patterns within the qualitative data. A peer debriefing process was carried out by selecting colleagues who were experts in qualitative research methodology and familiar with the subject matter but were not directly involved in the study. These colleagues, who held positions within the research team's broader academic or professional network, engaged in a thorough review of the data analysis process, particularly the emerging themes and their interpretations. They provided feedback on the clarity and consistency of the thematic categorization, ensuring that the findings were grounded in the participants' experiences and not influenced by researcher bias. This process helped to identify any overlooked patterns or misinterpretations and allowed for alternative perspectives to be considered, thereby enhancing the credibility and trustworthiness of the findings. The feedback from the peer debriefing contributed to refining the themes and ensured a more robust and well-rounded analysis. The researcher-maintained reflexivity throughout the analysis, acknowledging and considering their perspectives and potential biases to ensure the rigour and credibility of the findings. Refer to Table 1 for the summary of thematic analysis and the relations between theme and sub-themes.

6. Findings

The findings underscore that human-AI collaboration significantly enhances employee productivity in service sector organizations in Sri Lanka. AI has streamlined workflow processes, reduced repetitive tasks, and increased task efficiency. Employees frequently highlighted how AI allows them to focus on more meaningful and strategic activities, such as "AI has taken away the repetitive tasks, allowing us to focus on more meaningful aspects of our work." This automation has reduced time spent on routine tasks, enabling employees to prioritize high-value responsibilities. Workflow optimization was also a key theme, with participants recognizing how AI integration minimized bottlenecks and facilitated seamless task execution, as one participant noted: "Tasks are now seamlessly integrated, reducing bottlenecks in our workflow."

In terms of job satisfaction, human-AI collaboration has had a dual effect. On the one hand, employees expressed a sense of empowerment and purpose due to AI's role in skill enhancement and continuous learning. For instance, participants described how "The need to keep up with AI has pushed us to be in a constant learning mode." They emphasized the satisfaction of acquiring new skills, adapting to technological changes, and gaining professional growth. On the other hand, some employees expressed concerns about potential alienation from overly automated tasks, emphasizing the need for a balance between automation and meaningful human involvement.

Human-AI collaboration also emerged as a significant driver of team engagement and collaboration. Employees observed that AI fostered creative problem-solving and facilitated cross-functional teamwork. For example, one participant remarked, "Collaborating with AI brings a new dynamic to our team, fostering engagement and creativity." AI's role in breaking down organizational silos and promoting interdepartmental collaboration further enhanced team productivity and collective satisfaction.

AI's impact on employee well-being was another notable finding. AI reduced workplace stress and improved work-life balance by automating routine tasks and enabling flexible work arrangements. As one participant explained, "AI enables us to work more flexibly, contributing to a better work-life balance." However, employees also cautioned about potential risks, such as the blurring of boundaries between work and personal life, underscoring the importance of mindful implementation of AI-driven flexibility.

Trust in AI was identified as a critical enabler of its success. Employees emphasized the importance of transparent communication and ethical use in building confidence in AI systems. Statements like "Transparent communication about how AI decisions are made builds trust in the technology"

highlight how trust directly influences their willingness to engage with AI, thereby impacting productivity and satisfaction.

Table 59: Thematic Analysis Summary

#	Theme	Sub- Theme	Quotes
1	Automation and Task Efficiency	Impact on Mundane Tasks	"AI has taken away the repetitive tasks, allowing us to focus on more meaningful aspects of our work."
			"Tasks that used to take hours can now be done in minutes, thanks to automation."
		Time-Saving Benefits	"The time saved with AI handling routine tasks has significantly increased our overall productivity."
			"Efficiency has gone up, and now we can invest that time in strategic thinking and planning."
		Workflow Optimization	"AI has helped optimize our workflows, ensuring a smoother and more efficient process from start to finish."
			"Tasks are now seamlessly integrated, reducing bottlenecks in our workflow."
2	Skill Development and Job Enrichment	Continuous Learning	"The need to keep up with AI has pushed us to be in a constant learning mode, and I find that quite rewarding."
			"It's exciting to be part of an organization that encourages continuous learning, especially with new technologies like AI."
		Adapting to Technological Changes	"AI is changing how we work, and adapting to these changes has become a crucial part of our professional growth."

			"There's a sense of accomplishment in mastering new skills, especially when it comes to working alongside AI."
		Skill Enhancement	"AI has opened up opportunities to enhance my skill set, making me a more versatile professional."
3	Collaboration and Team Dynamics	Team Engagement	"Collaborating with AI brings a new dynamic to our team, fostering engagement and creativity."
			"Team projects have become more exciting with the integration of AI capabilities."
		Collective Problem-Solving	"AI helps us approach problem-solving from different angles, and the collective effort is more impactful."
			"We now have a more diverse set of tools for tackling complex issues as a team."
		Cross-Functional Collaboration	"AI promotes collaboration across departments, breaking down silos and improving overall organizational efficiency."
			"We've seen how different teams can leverage AI to collaborate on projects that benefit the entire organization."
4	Employee Well-being and Work-Life Balance	Stress Management	"Tasks that used to be stressful are now automated, reducing the overall stress levels in the workplace."
			"Knowing that AI handles certain aspects allows us to focus on high-priority tasks without feeling overwhelmed."
		Flexible Work Arrangements	"AI enables us to work more flexibly, contributing to a better work-life balance."

			"Flexible work arrangements made possible by AI have been a game-changer for maintaining a healthy balance."
		Health and Wellness Programs	"Our organization uses AI to design personalized wellness programs, addressing individual needs."
			"The integration of AI in promoting employee health has positively impacted our overall well-being."
5	Trust in AI	Transparency	"Transparent communication about how AI decisions are made builds trust in the technology."
			"Understanding the 'why' behind AI decisions makes it easier to trust the system."
		Ethical Use	"Knowing that our organization prioritizes ethical AI use is crucial for building trust among employees."
			"Ethical considerations are an integral part of our AI deployment strategy, and that reassures us."
		Confidence in AI Systems	"Seeing the consistent accuracy and reliability of AI systems has boosted our confidence in using them."
			"We've come to rely on AI as a valuable tool, and that confidence positively impacts our work."
6	Ethical Considerations and Transparency	Addressing Ethical Concerns	"Addressing ethical concerns head-on shows that our organization takes responsible AI use seriously."
			"Open discussions about potential ethical dilemmas associated with AI demonstrate a commitment to responsible deployment."

		Ensuring Transparency	"Transparency in how AI operates is essential, and it helps employees understand and trust the technology."
			"Knowing the 'black box' isn't entirely closed makes it easier to trust AI decisions."
		Ethical Decision-Making	"Ethical considerations are integrated into decision-making processes involving AI to ensure responsible use."
			"AI has prompted us to rethink and enhance our ethical decision-making frameworks."
7	Job Displacement Concerns	Communication about AI's Role	"Clear communication about AI's role helps alleviate concerns about job displacement."
			"Understanding that AI is here to enhance, not replace, our roles is reassuring."
		Assurances of Job Security	"Assurances from the organization about job security in the age of AI are essential for employee morale."
			"Knowing that the organization invests in our future and job stability builds trust."
		Retraining and Upskilling Programs	"Retraining programs provided by the organization have empowered us to embrace new roles alongside AI."
			"The focus on upskilling ensures that we remain valuable contributors in an evolving work landscape."
8	Communication and Training	Clear Communication	"Clear and timely communication about AI changes helps us prepare and understand the impact on our work."
			"Regular updates ensure that everyone is on the same page, reducing uncertainty about AI integration."

Effective Training Programs	"Effective training programs have equipped us with the skills needed to collaborate seamlessly with AI."
	"Hands-on training experiences have been invaluable in preparing us for the practical aspects of working with AI."
Employee Involvement	"Being involved in the decision-making process gives us a sense of ownership in the AI integration journey."
	"Our insights and experiences are considered, making the transition to AI-enhanced workflows smoother."

This comprehensive discussion integrates the interview quotes, providing a detailed exploration of the key themes and their implications for employee productivity and job satisfaction within service sector organizations engaged in human-AI collaboration in Sri Lanka. The findings highlight the positive outcomes and challenges of this dynamic workplace transformation.

7. Discussion

Human-AI collaboration influences organizational productivity by significantly enhancing task efficiency and enabling employees to focus on strategic work. The study confirms that AI reduces mundane, repetitive tasks, allowing employees to redirect their efforts toward higher-value activities. This transformation aligns with employees' perceptions that AI optimizes workflows and minimizes inefficiencies. However, organizations must ensure that automation complements rather than replaces human roles. Over-reliance on AI for decision-making or task execution may alienate employees, potentially diminishing their sense of purpose and engagement. Thus, organizations must adopt a balanced approach, maintaining human oversight in processes to sustain motivation and productivity.

The findings also suggest that human-AI collaboration positively impacts job satisfaction through skill enhancement and professional growth. Continuous learning emerged as a recurring theme, with employees viewing AI as a catalyst for acquiring new skills and adapting to a rapidly evolving work environment. However, realizing these benefits requires robust organizational support through comprehensive training programs. Tailored learning opportunities that address diverse employee needs will enhance skills and translate into career growth, reinforcing job satisfaction. However, a lack of structured support may result in frustration or skill gaps, negating these positive effects.

In team dynamics, human-AI collaboration has fostered greater engagement, creativity, and cross-functional collaboration. By enhancing problem-solving capabilities and breaking down silos, AI has positively influenced team productivity. However, these benefits are contingent on organizations fostering a culture of inclusion and collaboration. Employees must feel that AI complements their contributions and that their input remains valued. Regular team-building initiatives and open discussions about AI's role can further strengthen this dynamic, ensuring sustainable team cohesion and satisfaction.

Human-AI collaboration has also positively influenced employee well-being, with task automation reducing stress and flexible work arrangements supporting work-life balance. However, the potential for blurred boundaries between work and personal life poses a significant risk. Organizations must implement clear policies to ensure flexibility does not lead to overwork or burnout. Additionally, leveraging AI to develop personalized wellness programs can amplify its positive impact on well-being, provided these initiatives address employees' specific needs.

Finally, trust in AI is central to the overall impact of human-AI collaboration on productivity and satisfaction. Transparent communication about AI's decision-making processes and ethical deployment reinforce employee confidence in AI systems. Without this foundation of trust, employees may resist AI adoption, undermining its potential benefits. Ethical considerations must therefore be embedded in organizational policies, with regular audits and transparent reporting to ensure accountability. Engaging employees in these discussions can further strengthen trust, fostering a positive perception of AI in the workplace.

8. Conclusion

Exploring the influence of human-AI collaboration on employee productivity and job satisfaction within service sector organizations in Sri Lanka provides a nuanced understanding of the evolving landscape of modern workplaces. The amalgamation of qualitative data, enriched by employee insights through interviews and focus group discussions, unveils a tapestry of themes illuminating both the promises and challenges of integrating Artificial Intelligence.

The findings from this study reveal that the competencies required for human-AI collaboration in Sri Lanka's service sector are distinct from those typically found in developed countries. In Sri Lanka, employees exhibit a greater emphasis on adaptability and learning agility, which may be a result of limited access to formal training programs and a need to rely on individual resourcefulness. While developed countries may benefit from more structured educational systems and technology-driven skill development, Sri Lankan workers often display a hands-on approach to acquiring new skills, driven by necessity and a strong cultural emphasis on personal growth.

Additionally, the decision-making processes in Sri Lanka differ significantly from those in more industrialized nations. In Sri Lankan organizations, decision-making tends to be more collective and consensus-driven, with a strong focus on collaboration and group dynamics. This contrasts with developed countries, where decision-making may be more hierarchical or individualistic, often shaped by more advanced technological infrastructures and organizational maturity. As a result, the integration of AI technologies in Sri Lanka's service sector involves a greater need for fostering trust and open communication within teams to address concerns about job displacement and ethical considerations.

Human-AI collaboration in Sri Lanka's service sector has a profound impact on both employee productivity and job satisfaction. The integration of AI technologies enhances productivity by automating routine tasks, enabling employees to focus on more complex, creative, and decision-making responsibilities. This shift not only streamlines operations but also empowers employees to leverage AI tools for better efficiency and innovation. However, the influence on job satisfaction is multifaceted. While many employees experience a sense of fulfillment from collaborating with advanced technologies, the potential for job displacement and the need for continuous learning create challenges. Job satisfaction is positively influenced when AI is seen as a tool that complements human capabilities rather than replaces them, fostering a sense of empowerment and professional growth. Overall, human-AI collaboration leads to a more dynamic and engaging work environment, but its success is contingent upon proper communication, training, and the alignment of AI tools with employee roles and organizational goals.

This study has several limitations. Its focus on the Sri Lankan service sector may limit the generalizability of findings to other industries or regions with differing economic, cultural, or technological contexts. While offering in-depth insights, the qualitative thematic analysis is constrained by smaller sample sizes and potential biases in data interpretation. Additionally, the study's reliance on participants' current and retrospective perspectives on long-term human-AI collaboration may not fully capture future dynamics, particularly as AI technologies evolve. Variability in organizational structures and AI implementation strategies limits the generalization of findings across the sector.

In conclusion, the detailed exploration of human-AI collaboration within service sector organizations in Sri Lanka is a valuable guide for organizations globally. It is a testament to the multifaceted nature of this transformative journey, where the potential for innovation and growth coexists with the responsibility to uphold ethical standards and ensure the workforce's well-being. As organizations move forward, they must draw on the collective wisdom shared by their employees to navigate the intricate web of human-AI collaboration, creating workplaces that are not only technologically advanced but also human-centric.

References

Ammeran, M. Y., Noor, S., & Yusof, M. (2023). Digital Transformation of Malaysian Small and Medium-Sized Enterprises: A Review and Research Direction. *Lecture Notes in Networks and Systems*, *488*, 255–278. https://doi.org/10.1007/978-3-031-08090-6_16

Bankins, S., Ocampo, A. C., Marrone, M., Restubog, S. L. D., & Woo, S. E. (2023). A multilevel review of artificial intelligence in organizations: Implications for organizational behavior research and practice. In *Journal of Organizational Behavior*. John Wiley and Sons Ltd. https://doi.org/10.1002/job.2735

Bano Memon, A., & Khan Keerio, I. (2023). *The Rise of Artificial Intelligence and Its Influence on Employee Performance and Work*. https://doi.org/10.31703/gssr.2023(VIII-II).43

Bashynska, I., Prokopenko, O., & Sala, D. (2023). Managing_Human_Capital_with_AI_Syne. *Scientific Journal of Bielsko-Biala School of Finance and Law*, *27*(3), 39–45.

Çıdık, M. S., & Boyd, D. (2022). Value implication of digital transformation: the impact of the commodification of information. *Construction Management and Economics*, *40*(11–12), 903–917. https://doi.org/10.1080/01446193.2022.2033287

Fairooz, H. M. M., & Wickramasinghe, C. N. (2019). Innovation and Development of Digital Finance: A Review on Digital Transformation in Banking & Financial Sector of Sri Lanka. In *Finance and Management* (Vol. 1, Issue 1).

Giuntella, O., König, J., & Stella, L. (2023). *Artificial Intelligence and Workers' Well-Being*. www.iza.org

Huang, M. H., & Rust, R. T. (2018). Artificial Intelligence in Service. *Journal of Service Research*, *21*(2), 155–172. https://doi.org/10.1177/1094670517752459

Kazeem, K. O., Olawumi, T. O., & Osunsanmi, T. (2023). Roles of Artificial Intelligence and Machine Learning in Enhancing Construction Processes and Sustainable Communities. In *Buildings* (Vol. 13, Issue 8). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/buildings13082061

Madanayake, S., & Yapa, S. R. (2024). Factors influencing Digital Transformation Success: A Study on a Sri Lankan Commercial Bank. *SLIIT Business Review*, *3*(1), 103–137. https://doi.org/10.54389/ONHU3795

Malik, N., Tripathi, S. N., Kar, A. K., & Gupta, S. (2022a). Impact of artificial intelligence on employees working in industry 4.0 led organizations. *International Journal of Manpower*, *43*(2), 334–354. https://doi.org/10.1108/IJM-03-2021-0173

Malik, N., Tripathi, S. N., Kar, A. K., & Gupta, S. (2022b). Impact of artificial intelligence on employees working in industry 4.0 led organizations. *International Journal of Manpower*, *43*(2), 334–354. https://doi.org/10.1108/IJM-03-2021-0173

Pratt, M., Boudhane, M., Taskin, N., & Cakula, S. (2021). Use of AI for Improving Employee Motivation and Satisfaction. *Advances in Intelligent Systems and Computing*, *1329*, 289–299. https://doi.org/10.1007/978-3-030-68201-9_30

Rožman, M., Oreški, D., & Tominc, P. (2023). Artificial-Intelligence-Supported Reduction of Employees' Workload to Increase the Company's Performance in Today's VUCA Environment. *Sustainability*, *15*(6), 5019. https://doi.org/10.3390/su15065019

Schwabe, H., & Castellacci, F. (2020). Automation, workers' skills and job satisfaction. *PLoS ONE*, *15*(11 November). https://doi.org/10.1371/journal.pone.0242929

Shaikh, F., Afshan, G., Anwar, R. S., Abbas, Z., & Chana, K. A. (2023). Analyzing the impact of artificial intelligence on employee productivity: the mediating effect of knowledge sharing and well-being. *Asia Pacific Journal of Human Resources*, *61*(4), 794–820. https://doi.org/10.1111/1744-7941.12385

Sowa, K., Przegalinska, A., & Ciechanowski, L. (2021). Cobots in knowledge work: Human – AI collaboration in managerial professions. *Journal of Business Research*, *125*, 135–142. https://doi.org/10.1016/j.jbusres.2020.11.038

Strusani, D., & Houngbonon, G. V. (2019). *The Role of Artificial Intelligence in Supporting Development in Emerging Markets*. www.ifc.org/thoughtleadership

Thillaivasan, D., & Wickramasinghe, C. N. (2020). Conceptualizing the Impact of AI and Automation on Leadership, Human Capital and Organizational Performance. *Journal of Business and Technology*, *4*(1–2), 1–19. https://doi.org/10.4038/jbt.v4i1-2.37

Trenerry, B., Chng, S., Wang, Y., Suhaila, Z. S., Lim, S. S., Lu, H. Y., & Oh, P. H. (2021). Preparing Workplaces for Digital Transformation: An Integrative Review and Framework of Multi-Level Factors. In *Frontiers in Psychology* (Vol. 12). Frontiers Media S.A. https://doi.org/10.3389/fpsyg.2021.620766

Walter, Y. (2023). The digital transformation in the psychology of workplace spirituality. *Digital Transformation and Society*. https://doi.org/10.1108/dts-01-2023-0008

Zhang, A., Walker, O., Nguyen, K., Dai, J., Chen, A., & Lee, M. K. (2023). Deliberating with AI: Improving Decision-Making for the Future through Participatory AI Design and Stakeholder Deliberation. *Proceedings of the ACM on Human-Computer Interaction*, *7*(CSCW1). https://doi.org/10.1145/3579601