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The importance of Emotional Intelligence (EI) in the era of Artificial Intelligence (AI): perceptions of workers

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Master in Business Administration

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BUSINESS
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Resumo

Com o avanço da tecnologia, a Inteligência Artificial (IA) está a ser implementada em diversos locais de trabalho, o que levanta questões sobre o papel da Inteligência Emocional (IE) nesses contextos e acerca das competências (emocionais) humanas requeridas. Compreender quais as perceções e crenças dos trabalhadores acerca da relevância da IE em cenários de trabalho progressivamente dominados pela IA é essencial para o desenvolvimento de estratégias de gestão eficazes que promovam a adoção bem-sucedida da IA e impulsionem o desempenho organizacional no ambiente de trabalho do futuro. As perceções dos trabalhadores sobre a IA podem também influenciar a sua adaptação às exigências dos atuais contextos laborais com presença da IA. Com recurso à metodologia de inquérito, este estudo efetuou uma análise quantitativa das respostas de 156 trabalhadores, de modo a analisar as suas perceções relativamente à importância das competências da IE em contextos de trabalho que incorporam a Inteligência Artificial e à importância que atribuem à valorização da IE pela liderança. Adicionalmente, explorou as suas perceções relativamente às oportunidades e riscos associados à incorporação da IA no local de trabalho e aos diferentes tipos de competências considerados essenciais para um desempenho profissional ótimo. Os resultados sugerem que os trabalhadores tendem a considerar a IE essencial para o sucesso individual e organizacional em ambientes de trabalho que integram a IA. A necessidade de estratégias de gestão abrangentes é sublinhada, sendo essencial integrar tanto os avanços tecnológicos quanto o desenvolvimento de competências humanas, com especial ênfase na IE. Dessa forma, será possível facilitar transições mais suaves e aprimorar a dinâmica da IA no local de trabalho.

Palavras-chave

Inteligência Emocional (IE)

Inteligência Artificial (IA)

Estratégias de Gestão

Perceções dos trabalhadores

Classificação JEL

M12 - Gestão de Pessoal; Executivos; Compensação Executiva

O33 - Mudança Tecnológica; Escolhas e Consequências; Processos de Difusão

Abstract

With the advancement of technology, Artificial Intelligence (AI) is being implemented in various sectors of labor, raising questions about the role of Emotional Intelligence (EI) in those workplaces and the human (emotional) skills required. Understanding the perceptions and beliefs of workers regarding the relevance of EI in work scenarios progressively dominated by AI is essential for the development of effective management strategies that promote the successful adoption of AI and drive organizational performance in the workplace of the future. Workers' perceptions of AI can also influence their adaptation to the demands of today's workplace with AI presence. Using survey methodology, this study conducted a quantitative analysis of the responses from 156 workers to examine their perceptions of the importance of EI in work environments that incorporate AI and of the importance they attribute to the appreciation of EI by leadership. Additionally, it explored their perceptions of opportunities and risks associated with the integration of AI within the work environment and the different types of skills considered essential for optimal professional performance. The results reflected that employees generally view EI as crucial for both individual and organizational success in AI-enhanced workplaces. This alignment underscores the need for comprehensive management strategies that address both technological advancements and the nurturing of human competencies, suggesting that prioritizing EI can facilitate smoother transitions and enhance AI workplace dynamics.

Keywords

Emotional Intelligence (EI)
Artificial Intelligence (AI)
Management Strategies
Workers' Perceptions

JEL Classification

M12 - Personnel Management; Executives; Executive Compensation
O33 - Technological Change; Choices and Consequences; Diffusion Processes

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List of abbreviations

EI	Emotional Intelligence
AI	Artificial Intelligence
CNP	National Classification of Occupations
CPS	Cyber-Physical Systems
EQ-i	Emotional Quotient Inventory
EU	European Union
IoT	Internet of Things
IT	Information Technology
STEM	Science, Technology, Engineering, and Mathematics
T_CPEI	Scale of importance of EI competencies in AI work environments
T_CPO	Scale of types of competencies essential for optimal performance in AI work environments
T_DO	Scale of importance of EI for organizational development in AI work environments
T_L	Scale of importance of leadership's appreciation of EI in AI work environments
T_O	Scale of opportunities associated with AI in the workplace
T_R	Scale of risks associated with AI in the workplace
U.S.	United States

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1. Introduction

This project aims to investigate the importance of Emotional Intelligence (EI) in work contexts that increasingly incorporate Artificial Intelligence (AI), focusing specifically on workers' perceptions, an essential aspect for the development of effective management strategies that promote the successful adoption of AI and drive organizational performance in the workplace of the future.

Indeed, understanding how workers perceive and interpret the presence of AI in the workplace is crucial for the delineation of efficient management strategies. If workers perceive AI as a threat or something negative, they may resist its implementation, which can harm operational effectiveness and organizational culture. On the other hand, if they understand AI as capable of playing a complementary role to their work, in a collaborative and synergistic perspective for the full performance of the labor system, they may support its incorporation into it. Workers' perceptions of AI can also influence their adaptation to the demands of today's workplace with AI presence. If workers believe that AI can improve their productivity or facilitate their tasks, they are more likely to adopt it in their work, using it to make their work more efficient. Conversely, if they perceive AI as a threat to their job or their skills becoming obsolete, their adoption of AI in the workplace may decrease.

Understanding workers' concerns and doubts about AI and the different types of skills they considered essential for optimal professional performance can help the company anticipate potential conflicts and risks associated with its implementation. This allows the organization to take proactive measures to mitigate these risks, such as clear data security and privacy policies, promoting professional training, ensuring transparency in the use of AI, and promoting open communication about its impacts.

In work scenarios increasingly dominated by AI, understanding the perceptions and beliefs of workers regarding the relevance of EI, the importance of EI skills for optimal performance, and the significance they attribute to leadership's recognition of the value of EI is essential for developing effective management strategies that promote the successful adoption of AI and drive organizational performance in the workplace of the future.

Workers' perceptions of the importance of EI in AI scenarios also influence organizational culture. A deep understanding of these perceptions allows organizational leaders to promote a culture that values innovation, collaboration, and continuous learning, helping workers to adapt to changes and embrace new technologies positively.

1.1 Research paradigm and research questions

In terms of research paradigms, this study can be classified as both positivist and interpretivist. The positivist paradigm operates under the premise that reality is observable and describable through an objective lens without influencing the phenomena under investigation. This study aims to objectively measure workers' perceptions of EI in AI-integrated work environments using quantitative methods, such as surveys, to identify patterns and relationships between variables. On the other hand, the interpretivist paradigm focuses on comprehending the subjective meanings and experiences of individuals. It asserts that reality is socially constructed and that individuals interpret their experiences through the lens of their social and cultural environments. This study seeks to understand how workers perceive and interpret the importance of EI in AI-integrated work environments. By examining these perceptions, the study investigates workers' subjective experiences and beliefs, providing insights into how these perceptions influence their adaptation to AI in the workplace. By combining a positivist approach with quantitative research methods and incorporating an interpretivist understanding of subjective experiences, the study aims to provide a comprehensive analysis of the role of EI in AI-enhanced work environments. This dual approach allows for a robust examination of how workers' perceptions are shaped by various factors and how these perceptions, in turn, influence their professional experiences and effectiveness in increasingly AI-driven workplaces. This understanding is essential for developing effective management strategies that promote the successful integration of AI and enhance organizational performance in future workplace environments.

This study explores the perceptions of workers regarding the importance of EI in work environments increasingly dominated by AI. The central research question guiding this inquiry is: How do workers perceive the importance of EI in AI-integrated work environments? To address this, the study investigates several sub-questions: Do workers consider human EI competencies essential for personal and organizational success in AI-driven contexts? Which specific human competencies are considered necessary across various functional areas within AI-integrated workplaces? How does the perception of management valuing EI influence workers' motivation and efficiency in AI workplaces? What are workers' perceptions of the risks and opportunities associated with AI integration in the workplace? Finally, what is the impact of individual worker variables such as gender, age, education level, profession, and prior experience with AI on their perceptions of EI's importance in AI-integrated work environments?

1.2 Structure of the dissertation

The structure of the thesis investigating the importance of EI in work contexts increasingly incorporating AI is outlined as follows.

The introduction sets the stage for the entire thesis by providing a detailed context and defining the research problem. It clarifies the significance of the study, highlighting the growing prevalence of AI in the workplace and emphasizing why understanding workers' perceptions regarding the relevance of EI is crucial for effective management strategies and successful AI adoption. The introduction also outlines the research questions and objectives, guiding the reader through the study's aims. Additionally, it provides an overview of the thesis structure, ensuring the reader knows what to expect in the following sections.

The literature review explores existing research on EI, AI in the workplace, and the intersection of these fields. It identifies gaps in the current literature, providing a foundation for the study. By reviewing relevant theories and previous studies, the literature review situates the current research within the broader academic conversation, highlighting its contribution to the field.

The methodology section outlines the research design, including the quantitative methods used. It details the data collection techniques, explaining how the questionnaire used in the investigation was constructed, and describes how the data were collected and will be analyzed. This section ensures the research is replicable and transparent, providing a clear roadmap of how the study will address the research questions and objectives.

The results and discussion section presents the findings of the research. It includes a thorough analysis of the data, revealing patterns and relationships between variables. The discussion interprets these findings, critically examining the results in light of their significance and relevance to the research questions. It highlights their contributions to existing theory and their practical implications for management strategies in AI-integrated workplaces.

In the conclusions and recommendations section, the conclusion summarizes the key findings and their implications. It includes a discussion of the study's limitations and suggests directions for future research. Recommendations for practice are also provided, offering actionable insights for managers and organizations looking to successfully integrate AI while leveraging EI. This section ensures that the research has a clear and practical impact, guiding future efforts in the field.

2. Literature review

2.1 Artificial Inteligence (AI)

Artificial Intelligence (AI) involves the creation of computer systems capable of executing tasks that traditionally demand human intelligence. This can include pattern recognition, machine learning (a subset of AI that involves the development and analysis of systems capable of learning from data), natural language processing, computer vision, and autonomous decision-making, among others. The technological progress enabled by AI poses unprecedented challenges for companies and, particularly, for all workers, requiring a comprehensive analysis not only of the opportunities, risks, and constraints for organizations but also for workers (Veiga & Pires, 2018).

AI, including its widely used subset, machine learning, has the potential to be applied to any domain that presently relies on human cognition (Ormond, 2019). According to researchers' predictions, AI is expected to surpass humans in various activities over the next decade. These tasks encompass achieving language translation capabilities this year, crafting high-school essays within about two years, operating trucks within about three years, engaging in retail work within about seven years, authoring bestselling books within about 25 years, and performing surgical procedures within about 29 years. Additionally, there is a projected 50% likelihood that AI will surpass humans in all tasks within 45 years and could potentially automate all human jobs within 120 years.It's noteworthy that respondents from Asia anticipate these advancements sooner compared to those from North America (Grace et al., 2017).

2.1.1 Human and organizational dynamics in the context of AI

When evaluating its capacity or performance, AI is frequently compared to human intelligence to determine if it can replicate or exceed human capabilities. However, in business settings, AI is commonly evaluated based on its ability to aid (augment) or entirely replace (automate) humans in performing essential business activities. This potential is heavily influenced by the complexity and nature of the tasks (Broekhuizen et al., 2023). AI has the ability to conduct mapping, which involves sensing and scanning a company's internal and external environment by gathering and analyzing large datasets to address organizational challenges or explore new business opportunities (Broekhuizen et al., 2023). AI has the capacity to perform various tasks, spanning from automating specific sub-processes through mechanical well-defined tasks to

enabling integration between entities through analytical and emotional tasks. In operational settings, AI can improve the efficiency of resource allocation by optimizing how resources are distributed (Broekhuizen et al., 2023). Ultimately, AI contributes to control by supporting and influencing human behaviors towards desired outcomes. It can detect anomalies and forecast future behaviors, offering holistic suggestions that guide human behavior effectively (Broekhuizen et al., 2023).

AI presents a significant opportunity, offering numerous advantages in the workplace. Through the automation of repetitive tasks and the enhancement of operational efficiency, AI algorithms enable businesses to achieve higher accuracy, streamline processes, and drive innovation, ultimately enhancing productivity and competitiveness (Javaid et al., 2021).

The so-called Industry 4.0, characterized by the ongoing shift towards automation and the integration of data in manufacturing technologies based on digital technology, encompasses Cyber-Physical Systems (CPS), the Internet of Things (IoT), and cloud computing. It has an impact on all economic sectors (Spöttl & Windelband, 2021). Industries will utilize AI to analyze data received from IoT devices and connected machines, driven by their goal to seamlessly integrate them into their equipment. This enables companies to comprehensively monitor their entire end-to-end activities and processes (Javaid et al., 2021).

However, if machines surpass humans in speed, reliability, and cost-effectiveness across numerous job sectors, it could potentially disrupt the labor market to an unprecedented degree in human history. This technological advancement might exacerbate income disparities and potentially result in reduced earnings and increased unemployment in large segments of the population (Grace et al., 2017; Mannino et al., 2015).

The technological innovation brought by AI will modify old paradigms and drastically reshape production systems (Tessarini Junior & Saltorato, 2018).

A study conducted by the *Pew Research Center* aimed to comprehend the extent of exposure that American workers may have to AI in their workplaces (Kochlar, 2023). A portion of the analysis draws from a survey conducted by the *Pew Research Center*, which polled 11004 U.S. adults in December of 2022. Their analysis revealed that in the professional, scientific, and technical services sector, over half of workers (52%) are highly exposed to AI, which is more than double the overall rate. Similarly, workers in finance, insurance, and real estate (37%) as well as public administration (36%) also experience exposure rates significantly higher than the average (Kochlar, 2023). Conversely, approximately half of workers (48%) in the other services sector, which includes repair, maintenance, personal, and household services, have minimal exposure to AI. Moreover, over four-in-ten workers in

managerial and administrative services (45%) and accommodation and food services (43%) are likely to have relatively low exposure to AI. These sectors typically involve physical or social tasks, such as childcare, where AI adoption is less prevalente (Kochlar, 2023). The survey also indicates that many workers who face increased exposure to AI do not necessarily view their jobs as vulnerable. Specifically, American adults employed in the most AI-exposed industries do not appear to be worried about the personal impact of AI on them (Kochlar, 2023). In fact, according to the survey, 16% of all U.S. adults believe that AI will have a positive impact on their lives over the next 20 years, while 15% think it will be negative. However, workers across different industries hold varying opinions on this matter (Kochlar, 2023). The findings indicate that around 32% of workers in the information and technology sector foresee personal benefits from AI. Meanwhile, another 37% believe that AI will have both positive and negative effects, and only 11% think it will predominantly be negative; and in contrast, about one-quarter of employees (26%) in scientific, technical, and professional services hold positive views about AI's potential benefits. Likewise, 23% in public administration, government, and military sectors express similar optimism (Kochlar, 2023). Conversely, a small percentage of employees (14%) in arts, hospitality, and services perceive AI as advantageous for their personal circumstances. Meanwhile, a substantial 40% of workers in this sector express uncertainty regarding how AI might influence their lives, one of the highest shares across industries. There is a similar divergence of opinion among workers across industries regarding whether AI usage in the workplace will positively or negatively affect the U.S. economy (Kochlar, 2023).

The foresight of the profound changes brought about by the incorporation of AI in the workplace context brings several concerns, already duly addressed in a resolution of the European Parliament, on AI and robotics. That resolution highlights various key issues related to the development and use of AI and robotics technologies in the European Union. Some of the main points include the need to establish clear ethical principles to guide the development and use of AI and robotics, ensuring transparency and accountability, the concern about the potential impact of AI and robotics on the job market, the need to invest in education and training to prepare workers for the changes resulting from this technology, and ensuring the safety and protection of the privacy of EU citizens regarding AI and robotics systems (Parlamento Europeu, 2017).

In fact, there are ethical questions about mitigating suffering and avoiding negative outcomes related to the use of IA. However, it's important to remember that, overall,

technology progress have been making life better for everyone. Thus, AI has huge potential, but it's our job to use it responsibly (Bossmann, 2016).

2.2 Emotional Inteligence (EI)

The concept of EI can be defined as the ability to accurately and efficiently process emotional information through mental processes of recognition, regulation, and adaptive use of one's own and others' emotions (Salovey & Mayer, 1989; Vieira-Santos et al., 2018).

It's crucial to distinguish between emotions and EI. Emotions are natural, instinctive states of mind shaped by our current and past experiences, as well as our environment, circumstances, knowledge, moods, and relationships. Our feelings and experiences play a significant role in shaping our emotions. On the other hand, EI encompasses the ability, skill, and awareness to recognize, understand, and manage these feelings, moods, and emotions in a constructive manner. It involves learning how to effectively manage emotions and use this knowledge to guide behavior, make decisions, solve problems, self-regulate, and lead others (Faltas, 2017).

There is ongoing debate regarding whether EI consists of abilities that can be learned and enhanced, or if it primarily comprises inherent personality traits that individuals recognize within themselves, or a combination of both (Faltas, 2017). Indeed, the models can be classified into two fairly distinct groups: ability models and mixed models (Neubauer & Freudenthaler, 2005). With the exception of Mayer and Salovey's ability model of EI, existing conceptualizations of EI are mixed, expanding the understanding of this construct by explicitly incorporating a wide range of personality characteristics (Neubauer & Freudenthaler, 2005). However, ability versus mixed models of EI not only vary considerably in their conceptualizations but also in the proposed instruments used to measure EI. Thus, mixed models rely on self-report measures of EI, while the ability model centers on performance-based measures of emotional abilities (Neubauer & Freudenthaler, 2005).

2.2.1 The model of EI by Salovey, Mayer, and Caruso

The framework of EI developed by Mayer, Salovey, and Caruso suggests that EI consists of four primary abilities related to emotions: recognizing and expressing emotions, utilizing emotions to enhance thinking, understanding emotions, and managing emotions in oneself and others (Mayer et al., 2004; Salovey & Mayer, 1989).

Perception of emotion involves individuals' ability to identify emotions in themselves and others by observing facial expressions, tone of voice, and body language. Those proficient in perceiving emotions can also express their own emotions effectively and communicate their emotional needs. Utilizing emotions to enhance thinking involves recognizing that certain emotional states are more conducive to achieving specific outcomes than others. Comprehension of emotion entails the capacity to distinguish between various emotional states, along with understanding their specific triggers and development over time. Individuals proficient in this aspect possess insight into emotional trajectories and also grasp how multiple emotions can interact to give rise to another. Emotion regulation encompasses the capacity to remain receptive to a diverse array of emotions, acknowledge the significance of experiencing particular emotions in specific contexts, and discern which short- and long-term strategies are most effective for regulating emotions (Mayer et al., 2004).

With slight modifications, this initial conceptualization persists in some of the most prominent models of ability-based EI, those with four key branches (Călinici et al., 2020; Davies et al., 1998).

2.2.2 The model of EI by Goleman

Goleman's 1995 bestseller "Emotional Intelligence" popularized the term in the community. The book emphasizes the importance of EI in personal and professional success, arguing that it is often more crucial than cognitive intelligence. Goleman explores various aspects of EI, and discusses how these abilities can be developed and applied in everyday life and work. He also highlights the role of emotions in decision-making, relationships, and leadership effectiveness (Goleman, 1995).

The mixed model by Goleman defines EI as the capacity to acknowledge our own emotions and those of others, inspire ourselves, and adeptly handle emotions within ourselves and in our interactions (Goleman, 1998). It is termed a mixed model because it incorporates elements from various theories and approaches, including Mayer and Salovey's theory of emotional abilities. Additionally, it draws insights from diverse fields such as psychology, neuroscience, and leadership studies, making it a comprehensive framework for understanding EI.

His initial model focuses on five main EI constructs essential for leadership performance, encompassing twenty-five competencies. Further refinement by reduced the number of skills to twenty, organized into four key areas: self-awareness (comprising awareness of one's emotions, accurate self-evaluation, and self-assurance), self-control (including emotional self-

control, transparency, adaptability, orientation of efforts, initiative, and optimism), social awareness (encompassing empathy, organizational awareness, and orientation of service), and relationship management (involving managing others, inspired leadership, influence, conflict management, and teamwork and collaboration) (Boyatzis et al., 2000).

While not the originator of the concept of EI, Goleman was the first to articulate the content of EI in the business environment. In this context, he primarily focused on studying the relationship between EI and the high performance of leaders (Goleman, 1998). In fact, he emphasized that EI, including self-awareness, self-regulation, empathy, and social skills, is crucial for effective leadership. Goleman argued that leaders who possess high EI are better able to manage themselves and their relationships with others, resulting in improved performance and success in leadership roles (Goleman, 1998).

2.2.3 The model of EI by Bar-On

According to the model of Bar-On emotional-social intelligence is a combination of interconnected emotional and social competencies, skills, and facilitators. These elements collectively determine how effectively we understand and express ourselves, understand others, relate to them, and cope with the demands and challenges of daily life (Bar-On, 2007).

To gain a deeper understanding of the Bar-On model and its development, it is essential to provide a brief overview of the Bar-On Emotional Quotient Inventory (EQ-i) (Bar-On, 2007). The Bar-On EQ-i measures EI across several scales, including *Intrapersonal - Self-awareness and self-expression* [Self-Appreciation (capacity to honestly perceive, comprehend, and embrace oneself), Emotional Self-Awareness (consciousness and understanding of one's emotions), Assertiveness (effective and constructive expression of one's feelings and self), Autonomy (being self-sufficient and emotionally independent), and Self-Actualization (pursuing personal aspirations and realizing one's potential)]; *Interpersonal - Social consciousness and interpersonal connection* encompass [Empathy (awareness and understanding of others' emotions), Social Responsibility (identification with one's social circle and collaboration with others), and Interpersonal Relationship (the capacity to form rewarding relationships and interact effectively with others)]; *Stress Regulation - Emotional management and control* consist of [Stress Tolerance (effective and constructive management of emotions) and Impulse Control (effective and constructive control of emotions)]; *Adaptability - Change management* includes [Reality-Testing (objectively validating one's emotions and thoughts with external circumstances), Adaptability (the capacity to modify one's

feelings and thoughts in response to new situations), and Effective Problem-Solving (resolving personal and interpersonal challenges efficiently)]; and *Overall Disposition - Self-motivation* encompasses traits such as [Positive Outlook (maintaining a positive perspective and seeing the brighter side of life) and Happiness (contentment with oneself, others, and life in general)].

Consensus findings from studies using the EQ-i suggest that the most impactful contributors to occupational performance are: self-awareness and self-acceptance; empathy and understanding others' feelings, concerns, and needs; emotional management; realistic perspective-taking; and maintaining a positive outlook on life (Bar-On, 2007). Indeed, EI profiles based on these factors are increasingly utilized in global selection, training, and succession planning efforts. This approach enhances the likelihood of recruiting high-performing employees who collectively contribute to increased organizational productivity (Bar-On, 2007).

2.2.4 Impacts of EI in the workplace

A thorough analysis reveals that EI profoundly affects every aspect of our lives. It influences our behavior, decision-making, conflict resolution, self-perception, interpersonal communication, stress management, and workplace performance, including our ability to manage and lead teams. EI plays a crucial role in both personal and professional development, enabling us to progress, mature, and achieve our goals (Faltas, 2017).

EI fosters and encourages behaviors that promote fairness, social justice, balance, leadership, trust, respect, motivation, growth, and excellence, it helps build stronger relationships, and shapes our perception of the world around us, influencing how we perceive and think about our environment (Faltas, 2017).

Communication, self-awareness, and engagement with others are closely related to EI (Müller & Turner, 2010), as they represent prerequisites for understanding ourselves, managing emotions, and understanding those of others (Bonesso et al., 2020). These factors are considered crucial for personal and professional success, as they allow us to assess emotions and manage them to achieve positive outcomes (Dhani & Sharma, 2017).

EI can enhance human interaction by connecting emotion and cognition, which becomes significant for improving behavior and performance in the workplace, particularly within teams, aiding in overcoming obstacles (Xiang et al., 2016). Emotionally intelligent teams possess a set of critical skills that support effective communication, better decision-making, and strengthened relationships among group members, enabling them to achieve peak

performance (Rezvani et al., 2018). In addition to aiding in maintaining effective and appropriate relationships among team members, EI also contributes to improved information exchange, enhanced decision-making, and better group performance (Günsel & Açikgöz, 2013).

EI is a skill that contributes to positive attitudes, behaviors, and outcomes. In fact, individuals with higher levels of EI exhibit greater resilience and achieve better social and work outcomes (Huang et al., 2018).

2.2.5 EI and leadership

Research conducted in the field of EI indicates that it adds value to the leadership qualities of a manager. In fact, EI makes leaders more effective and successful by bearing significant weight in areas such as motivation, communication, decision-making, interpersonal relationships, and change management (Wagner, 2013). EI has been shown to enhance a leader's ability to understand and regulate their own emotions and those of others., leading to improved communication, stronger relationships with team members, and more effective decision-making (Wagner, 2013). Additionally, it enables leaders to navigate change more smoothly by recognizing and addressing the emotional impact of changes on individuals and teams. Thus, it plays a crucial role in shaping the overall effectiveness of leadership (Wagner, 2013).

EI enables the project manager to break free from standardized thinking, fostering creativity, and exposing them to various stakeholders' perspectives. As the human factor remains a part of the equation in the workplace, it's crucial to understand oneself and others so that teams can collaborate effectively. Thus, it can be said that the emotional aspect significantly intertwines with a manager's leadership style in their leadership role (Mahmud, 2017).

The literature typically indicates that 88% of project managers spend more than 50% of their time collaborating with stakeholders, underscoring the crucial role stakeholders play in project management, where effective communication and collaboration are paramount (Lahon, 2016).

Therefore, in a leadership role, EI can play a crucial role, among other aspects, in maintaining the job satisfaction level of middle managers (Rezvani et al., 2016), in negotiating and evaluating job performance (Zyl & Bruin, 2012), in conflict management, and in strengthening relationships among workers (Maqbool et al., 2017). It is the leader's

responsibility, as the ultimate authority, to take on the role of promoting a positive environment, managing communication, and conflicts (Binde et al., 2015).

EI is, thus, understood standing out as a valuable asset beyond other essential professional prerequisites (Ruiz, 2019) and a critical leadership competency (Preston et al., 2015).

2.3 EI in the scenario of AI

As technology continues to reshape our interactions and work dynamics, it acts as a bridge connecting communities and workers in ever more intricate ways, presenting novel avenues for growth (WEF, 2017). This comparison likens technology to a language, highlighting its essential role in modern life. Just as proficiency in a language enables effective communication and participation in society, mastering technology is necessary for success in today's workplace and broader society. Just as someone who learns a language from a young age gains fluency and ease in using it, individuals who become proficient with technology early on can more easily adapt to its advancements and leverage its benefits throughout their lives.

Yet, the solution doesn't solely lie in boosting the numbers of STEM (Science, Technology, Engineering, and Mathematics) graduates within the existing education systems. While enhancing STEM literacy is undeniably crucial, the current educational approach often accentuates a gap between the sciences and humanities, perpetuates existing gender disparities, and prioritizes theory over practical application and hands-on learning (WEF, 2017). Even within STEM fields, employability hinges not only on technical expertise but also on robust creative thinking, critical analysis, and other non-cognitive skills (WEF, 2017). Soft skills like social and communication abilities, teamwork, and self-management are becoming increasingly important for skilled labor, including managers and engineers. Traditionally, factory workers haven't received much training in these areas because their jobs haven't required those skills. However, in the factories of the future, there will be more collaboration among workers on the production and in daily business operations. With workers taking on greater responsibilities and having more influence, there will be a growing need for self-management and other general management skills (Gehrke et al., 2015).

Indeed, a crucial factor for the implementation of new technologies is the human element, including their adaptability and capacity for developing new knowledge, techniques, tools, and concepts across various competency categories (Guerlinguer, 2023; Jorge et al., 2020). Other requirements include developing the ability to demonstrate certain sensory awareness, cognitive skills, problem-solving, planning, and optimizing activities. Additionally, individuals

should be creative, possess EI, and have the know-how to articulate and coordinate teams from different areas of knowledge (Guerlinguer, 2023; Spöttl & Windelband, 2021).

As a matter of fact, in today's world, in a time of increasing integration of AI in workplaces, while technology drives the fourth industrial revolution, it's the people who make the real change happen (Shamim et al., 2016). This fourth revolution follows the first industrial revolution's mechanization, the second's introduction of electricity and mass production, and the third's digitalization and automation.

2.3.1 EI and leadership in a AI work context

In a AI work context, appropriate management approaches play a vital role in fostering dynamic capabilities and creating an effective climate for learning and innovation (Shamim et al., 2016). In this era, EI is crucial for organizational leadership. Indeed, leaders need to understand themselves, regulate their emotions, motivate others, show empathy, and have strong social skills. In a digital age where teamwork, breaking down hierarchies, and creating an environment for new ideas are vital, EI is key (Mildemberger Correio et al., 2021; Schwab & Davis, 2018).

During critical stages of technological project development, as in the contexts of introducing AI in the workplace, leaders with developed EI can emerge as a source of support to overcome obstacles and demonstrate that it is always possible to overcome any challenge that may arise (Drzewiecka & Roczniewska, 2018; Medcof, 2017). Throughout the evolution of technological development projects, projects that aim to leverage technological advancements to improve efficiency, accuracy, or automation of specific tasks, numerous potential obstacles arise due to the historical complexity of their execution, which sometimes demotivate teams and negatively impact their normal functioning (Montequin et al., 2014). However, in moments like this, emotionally intelligent teams possess a range of crucial skills that support effective communication, enhance decision-making, and strengthen relationships within the group, enabling them to achieve the highest performance (Rezvani et al., 2018). EI is positively correlated with significant domains in the management of technological projects, such as improving communication, job performance, and leadership effectiveness (Luong et al., 2021), since EI is recognized as a significant contributor to the success of technological projects (Maqbool et al., 2017), where those involving the implementation, development, or application of AI are examples.

2.3.2 Worker and workplace AI coexistence

In the field of worker and workplace AI coexistence, a thematic analysis conducted suggests that overselling AI capabilities in the workplace can lead to a breakdown of trust between workers and AI systems (Zirar et al., 2023). The authors concluded that this issue of 'trust' implies a fundamental fear among workers that AI will replace them in their jobs. However, organizations are beginning to recognize the benefits of a symbiotic relationship between workers and AI in the workplace (Zirar et al., 2023).

Nevertheless, such a symbiotic relationship requires workers to develop the necessary i) technical skills, i.e. proficiency in a specific activity (*IT literacy to machine-based digital technologies such as AI, nanotechnology, virtual reality, digitisation, robotics, 3D printing, Internet of Things, natural language processing*); ii) human skills, i.e. being able to work with people (*managing people, coordinating with others, emotional intelligence, knowledge sharing, teamwork, collaboration, delegation, and negotiation*); and iii) conceptual skills, i.e. being able to work with concepts and ideas (*critical thinking and analysis; creativity and initiative; judgement and decision making; data analysis, synthesis and sense-making; cognitive flexibility*) (Zirar et al., 2023). All of them, technical, human, and conceptual skills are important for AI integration in the workplace (Zirar et al., 2023). Consequently, organizations and their employees must invest in ongoing training and dedicate time to upskilling (enhance or expand employees' existing skills) and reskilling (develop entirely new skills) to adapt to the demands of today's workplace (Zirar et al., 2023).

The authors identified four themes in their thematic analysis: 1) workers' distrust in workplace AI arises from perceiving it as a job threat; 2) workplace AI promotes worker-AI interactions by offering to enhance worker abilities; 3) coexistence between AI and workers necessitates workers' technical, human, and conceptual skill's; and 4) workers require ongoing reskilling and upskilling to foster a symbiotic relationship with workplace AI (Zirar et al., 2023). They emphasize the importance of considering existential concerns in understanding workers' distrust of AI, highlight the multifaceted skills necessary for effective worker and AI coexistence, and stress the need for a balanced approach that prioritizes human and conceptual skills alongside technical ones (Zirar et al., 2023).

While technical skills are essential for coexisting with workplace AI, human skills (a category that encompasses EI) and conceptual skills would increasingly be focused on fostering productive work in a highly digitized working environment (Zirar et al., 2023).

3. Methodology

To contribute to the existing body of knowledge, this study adopts a comprehensive research design that addresses the research problem concerning workers' perceptions of EI in AI-integrated work environments. Additionally, the study incorporates an interpretivist perspective to acknowledge the subjective experiences and meanings that workers attach to EI in their work environments.

The methodology involves a systematic review of existing literature, the formulation of research questions, the design and implementation of a structured questionnaire, the collection and quantitative analysis of data, and the discussion of findings leading to informed conclusions. This structured approach ensures a thorough and replicable investigation, aimed at providing meaningful insights into the role of EI in modern workplaces influenced by AI.

3.1 Data collection techniques

A structured questionnaire was employed as the data collection tool to gather necessary data. The questionnaire was meticulously designed to capture a comprehensive range of variables pertinent to the study's objectives. The design process included an extensive review of existing literature on EI and AI to identify key themes and variables that informed the questionnaire's content.

The questionnaire included questions aimed at measuring workers' perceptions of the importance of EI and human competencies in AI-integrated work environments, their views on the role of EI in enhancing personal and organizational success, their opinions on the significance of management's appreciation of EI, and the risks and opportunities perceived by workers regarding the progressive introduction of AI in the workplace.

3.2 Data analysis

The data collected was analyzed using statistical techniques appropriate for the nature of the data and the research questions posed. The analysis followed these steps:

Descriptive statistics: the initial analysis involved computing descriptive statistics (means, medians, standard deviations) to summarize the central tendencies and dispersion of the data.

Inferential statistics: hypothesis testing used methods such as t-tests, Kruskal-Wallis tests, and correlation analysis to identify significant relationships between variables and differences

in demographic factors (age, gender, education level, occupational group, and experience with AI).

Reliability and validity: the reliability of the questionnaire was assessed using Cronbach's alpha, while validity was ensured through factor analysis.

The statistical analysis was conducted using SPSS (Statistical Package for the Social Sciences) version 29.

3.3 Questionnaire design process and data collection procedures

A structured questionnaire is meticulously developed to ensure comprehensive coverage of variables identified in the literature review, capturing a wide range of factors pertinent to the study's objectives. It includes sections focusing on workers' perceptions regarding:

I) the importance of EI competencies in AI-integrated work environments (5 items);

II) the importance of EI for organizational development in AI-integrated work environments (7 items);

III) opportunities associated with AI in the workplace (5 items);

IV) risks associated with AI in the workplace (5 items);

V) the importance of leadership's appreciation of EI in AI-integrated work environments (5 items);

VI) types of competencies essential for optimal performance in AI-integrated work environments (3 items), totaling 30 items.

Table 3.1 contains a description of the items for each of these sections.

The questionnaire employs a 5-point Likert scale to assess respondents' agreement with various statements related to EI and AI, where respondents are asked to indicate their level of agreement on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree) with each statement, where 2 indicates Disagree, 3 indicates Neutral, and 4 indicates Agree.

Informed consent was considered obtained from all participants, as it was explained in the instructions that voluntary response would imply acceptance and informed consent. Confidentiality and anonymity were maintained throughout the study. Participants were informed of their right to withdraw from the study at any time without any consequences.

Invitations to participate were sent via email, WhatsApp, Facebook, and Instagram, targeting workers within the researcher's personal contact networks, as well as individuals from schools, banks, universities, national companies, unions, airlines, and other organizations.

Table 3.1 - Sections and item numbers of the questionnaire constructed and applied in the study

Questionnaire of Workers' Perceptions on EI and AI in the Workplace	
Importance of EI competencies in AI work environments T_CPEI	In workplaces that incorporate AI is fundamental … 1) … being able to recognize and understand one's own feelings. 2) … being able to recognize and understand others' emotions. 3) … being able to regulate one's own emotions. 4) … being able to effectively manage others' emotions and influence them. 5) … being able to effectively use one's own emotions for decision-making, self-motivation, and orientation towards personal and organizational goals.
Importance of EI for organizational development in AI work environments T_DO	In workplaces that incorporate AI, EI is essential for … 9) …. creating a learning and innovation-friendly environment. 10) … effective communication. 11) … the efficiency of work teams. 12) … appropriate decision-making. 13) … overcoming obstacles. 14) … maintaining motivation. 15) … effectively handling different perspectives.
Opportunities associated with AI in the workplace T_O	Artificial Intelligence (AI) in the workplace... 16) … contributes to worker well-being and motivation. 18) … increases productivity and improves efficiency through process optimization. 20) … contributes to workplace innovation. 22) … reduces workplace accidents. 24) … primarily operates in a complementary manner to human work, facilitating workers' tasks.
Risks associated with AI in the workplace T_R	Artificial Intelligence (AI) in the workplace... 17) … poses a threat to employment. 19) … primarily operates in a manner that substitutes human work, eliminating the need for human competencies. 21) … requires labor skills that most workers do not possess. 23) … presents serious data security issues and threatens worker privacy. 25) … poses a serious risk of man being dominated by the machine.
Importance of leadership's appreciation of EI in AI work environments T_L	In workplaces that incorporate AI, leadership that values EI is fundamental for… 26) … fostering an organizational climate conducive to learning, creativity, and innovation. 27)… overcoming obstacles by providing support. 28) … the efficiency of work teams. 29) … improving communication and information sharing. 30) … decision-making regarding necessary organizational changes.
Types of competencies essential for optimal performance in AI work environments T_CPO	In workplaces that incorporate AI is fundamental … 6) … being able to understand and effectively apply AI techniques, algorithms, and tools (technical competencies). 7) … being able to work well with people (human competencies). 8) … being able to work well with concepts and ideas (conceptual competencies).

The study sample was obtained through a questionnaire administered in the portuguese language to a diverse sample of workers across various entities to ensure generalizability and representativeness. Since the study was anonymous, it is not possible to calculate the participation rate, as the origin of the questionnaires is unknown, and the number of workers within each organization who received the link to the online questionnaire is also unknown. Additionally, workers were encouraged to share the online questionnaire with their colleagues. The questionnaire was completed online using a Google Forms document, and responses were received via an email account created for the research. The questionnaire was hosted on Google Drive, and the responses were also accessed on the Drive in a form responses format.

Socio-demographic data including age, gender, education level, occupational group, and experience with AI at work (whether currently or previously employed in an AI-utilizing environment) were collected. The instructions specified that the questionnaire focused on EI in workplaces progressively integrating AI.

The methodology is meticulously detailed to ensure reproducibility by other researchers. By employing this comprehensive research design, the study aims to provide a robust analysis of the role of EI in AI work environments. This includes examining workers' perceptions towards AI integration, which are crucial for shaping effective management strategies aimed at fostering successful AI adoption and enhancing organizational performance in future workplaces. Each phase, from collecting data to analyzing it, is transparently documented to provide a clear roadmap for future investigations into the importance of EI in AI work contexts.

4. Results and Discussion

4.1 Sociodemographic characteristics of the participants

The study sample consists of a total of 156 participants. The age distribution of the participants is summarized in the table 4.1. As shown in the table, the majority of participants are aged between 46 and 55 years (29.5%), followed by those aged 56 to 65 years (25.6%). Participants aged up to 25 years represent 11.5% of the sample, while those aged 65 years and older constitute the smallest group at 5.1%.

Table 4.1- Sample age distribution

Age interval	Frequency	Percentage %
Up to 25 years	18	11.5
26-35 years	22	14.1
36-45 years	22	14.1
46-55 years	46	29.5
56-65 years	40	25.6
65+ years	8	5.1
Total	156	100.0

The gender distribution is summarized in Table 4.2. The majority of participants are female, accounting for 68.6% of the sample, while male participants constitute 31.4%. Although the number of male participants is relatively smaller, totaling 49, it is still a substantial enough sample size to allow for meaningful statistical analysis of the data pertaining to male respondents.

Table 4.2 - Sample gender distribution

Gender	Frequency	Percentage %
Female	107	68.6
Male	49	31.4
Total	156	100.0

As shown in Table 4.3, the educational qualifications within the sample show that a small proportion of participants, specifically 6.4%, have completed up to 9th grade. Approximately 14.7% have attained secondary education, encompassing grades 10 through 12. A minority, at 1.9%, have undergone post-secondary vocational training lasting between 18 months and 2 years. The majority of the sample, 76.9%, holds higher education degrees. This distribution

indicates a highly educated sample, with most participants having pursued higher education beyond secondary schooling.

Table 4.3 - Distribution of sample educational qualifications

Educational qualification	Frequency	Percentage %
Up to 9th grade	10	6.4
Secondary education (10th to 12th grade)	23	14.7
Post-secondary vocational training (18 months to 2 years)	3	1.9
Higher education	120	76.9
Total	156	100.0

As illustrated in Table 4.4, the occupational groups within the sample are classified according to the Portuguese National Classification of Occupations (CNP).

Table 4.4 - Distribution of sample occupational groups

Occupational group	Frequency	Percentage %
Legislative and executive branch representatives, executives, directors, and senior managers	11	7.1
Intellectual and scientific specialists	76	48.7
Technicians and intermediate-level professions	35	22.4
Administrative staff	11	7.1
Personal service, protection and security workers, and salespeople	1	0.6
Farmers and skilled agricultural, fishing, and forestry workers	1	0.6
Skilled workers in industry, construction, and artisans	2	1.3
Unskilled workers	19	12.2
Total	156	100.0

This distribution highlights a diverse range of occupational backgrounds within the sample. The most notable aspect is the large proportion of intellectual and scientific specialists, who represent 48.7% of the sample. Technicians and intermediate-level professionals also constitute a considerable segment at 22.4%. In contrast, other occupational groups are less represented, with only a small percentage in categories such as personal service workers, protection and security workers, salespeople, farmers, and skilled agricultural workers. Unskilled workers account for 12.2% of the sample. This distribution emphasizes the predominance of highly specialized roles, particularly in intellectual and scientific fields.

As shown in Table 4.5, the distribution of the sample regarding work experience with AI indicates that 38.5% of participants have experience working with AI, while the majority, totaling 61.5%, report having no such experience. This distribution suggests that, although a notable number of individuals in the sample are familiar with AI, a larger proportion has not yet engaged with this technology in their occupational roles.

Table 4.5 - Sample work experience with AI

Work experience with AI	Frequency	Percentage %
Yes	60	38.5
No	96	61.5
Total	156	100.0

The following tables cross-examine work experience with AI against other sociodemographic variables, highlighting important patterns and insights, crucial for understanding the diverse impacts and reach of AI technology across different groups.

As illustrated in Table 4.6, the distribution of work experience with AI varies across different age groups, with notable trends emerging. The age group with the highest proportion of AI experience is 26-35 years, where 54.5% have worked with AI. This is followed by the 56-65 age group, with 40.0% having AI experience. Conversely, the age group up to 25 years has the lowest proportion of AI experience, with only 27.8% having worked with AI. This distribution suggests that AI experience is more prevalent among younger and middle-aged professionals compared to those at the beginning or end of their careers. However, the chi-square test results indicate no significant association between the variables, as evidenced by a Pearson chi-square value of 3.620 with 5 degrees of freedom and a p-value of 0.605, supporting the null hypothesis of independence between age and AI work experience.

Table 4.6 - Work experience with AI by age

Work experience with AI	Yes Frequency	Yes age Percentage %	No Frequency	No age Percentage %	Total Frequency	Total Percentage %
Up to 25 years	5	27.8	13	72.2	18	11.5
26-35 years	12	54.5	10	45.5	22	14.1
36-45 years	8	36.4	14	63.6	22	14.1
46-55 years	16	34.8	30	65.2	46	29.5
56-65 years	16	40.0	24	60.0	40	25.6
65+ years	3	37.5	5	62.5	8	5.1
Total	60	38.5	96	61.5	156	100.0

As illustrated in Table 4.7, the distribution of work experience with AI varies by gender. Among females, 32.7% have experience with AI, while 67.3% do not. In contrast, 51.0% of males have experience with AI, compared to 49.0% without. This distribution suggests a higher prevalence of AI work experience among males compared to females. The chi-square test results indicate a significant association between gender and work experience with AI. The

Pearson chi-square value is 4.761 with 1 degree of freedom and a p-value of 0.029, suggesting that the difference in AI experience between genders is statistically significant.

Table 4.7 - Work experience with AI by gender

Work experience with AI	Yes Frequency	Yes age Percentage %	No Frequency	No age Percentage %	Total Frequency	Total Percentage %
Female	35	32.7	72	67.3	107	68.6
Male	25	51.0	24	49.0	49	31.4
Total	60	38.5	96	61.5	156	100.0

These findings align with various studies that underscore the notable lack of women in STEM (Science, Technology, Engineering, and Mathematics) disciplines and the growing AI-focused careers in the future job market (Amemiya & Bian, 2024; Armutat et al., 2024). This pervasive issue is linked to structural challenges, including gender discrimination, a lack of female mentors, and disparities in educational access.

As illustrated in Table 4.8, the distribution of work experience with AI varies by educational qualification. Among participants with up to 9th grade education, only 10.0% have experience with AI. In comparison, those with secondary education show a higher rate of 21.7% with AI experience. Participants with post-secondary vocational training have the highest proportion of AI experience, at 66.7%, though it is important to note that this group consists of only 3 participants, which may limit the generalizability of these findings. Finally, those with higher education also exhibit a substantial rate, with 43.3% having AI experience. The Pearson chi-square value is 8.352 with 3 degrees of freedom and a p-value of 0.039, suggesting that the differences in AI experience across educational levels are statistically significant, which makes sense given that AI is a complex field that is more accessible to those with higher educational attainment.

Table 4.8 - Work experience with AI by educational qualification

Work experience with AI	Yes Frequency	Yes age Percentage %	No Frequency	No age Percentage %	Total Frequency	Total Percentage %
Up to 9th grade	1	10.0	9	90.0	10	6.4
Secondary education	5	21.7	18	78.3	23	14.7
Post-secondary vocational training	2	66.7	1	33.3	3	1.9
Higher education	52	43.3	68	56.7	120	76.9
Total	60	38.5	96	61.5	156	100.0

Table 4.9 shows that the distribution of AI experience varies notably among occupational groups. Executives, directors, and managers have a 36.4% rate of AI experience. Intellectual

and scientific specialists have the highest rate at 55.3%. Technicians and intermediate-level professionals show a lower rate of 25.7%. Administrative staff have an 18.2% rate of AI experience, while unskilled workers have a notably lower rate of 5.3%. The chi-square test reveals a significant association between occupational groups and AI experience, with a Pearson chi-square value of 24.584, 7 degrees of freedom, and a p-value of less than 0.001, indicating a strong relationship between occupational group and AI experience, despite the presence of very small sample sizes in some categories. Considering that executives, directors, and intellectual and scientific professions typically require higher educational qualifications, these findings are consistent with the significant association observed between educational qualification and AI experience.

Table 4.9 - Work experience with AI by occupational group

Work experience with AI	Yes Frequency	Yes age Percentage %	No Frequency	No age Percentage %	Total Frequency	Total Percentage %
Executives, directors, and managers	4	36.4	7	63.6	11	7.1
Intellectual and scientific specialists	42	55.3	34	44.7	76	48.7
Technician, intermediate-level	9	25.7	26	74.3	35	22.4
Administrative staff	2	18.2	9	81.8	11	7.1
Personal service, security and sales	0	0.0	1	100.0	1	0.6
Farmers, fishing, and forestry	1	100.0	0	0.0	1	0.6
Industry, construction, and artisans	1	50.0	1	50.0	2	1.3
Unskilled workers	1	5.3	18	94.7	19	12.2
Total	60	38.5	96	61.5	156	100.0

4.2 Descriptive analysis of study variables

According to Table 3.1, related to the questionnaire used in the study, the sums of the items for each of the six sections of the questionnaire were calculated to obtain a result for each of the scales it comprises. The "Importance of EI competencies in AI work environments – T_CPEI" scale includes items 1, 2, 3, 4, and 5, with a range of values from 5 to 25 points (using a five-point Likert scale). The "Types of competencies essential for optimal performance in AI work environments – T_CPO" scale consists of items 6, 7, and 8, with a total score ranging from 3 to 15 points. The "Importance of EI for organizational development in AI work environments – T_DO" scale comprises items 9, 10, 11, 12, 13, 14, and 15, with a sum ranging from 7 to 35 points. The "Opportunities associated with AI in the workplace – T_O" scale includes items 16, 18, 20, 22, and 24, with a possible total score between 5 and 25 points. The "Risks associated with AI in the workplace – T_R" scale is made up of items 17, 19, 21, 23, and 25, with a score range from 5 to 25 points. Finally, the "Importance of leadership's appreciation of

EI in AI work environments – T_L" scale consists of items 26, 27, 28, 29, and 30, with a total score ranging from 5 to 25 points.

For each scale, a set of data concerning the study variables obtained from the responses of the 156 participants is presented, including the minimum and maximum values, mean, median, mode, and standard deviation. These data are summarized in Table 4.10.

Table 4.10 - Descriptive statistics for Questionnaire Scales

Statistic	T_CPEI	T_CPO	T_DO	T_O	T_R	T_L
Mean	19.3	12.3	28.9	18.0	15.8	19.9
Median	20.0	12.0	28.0	18.0	15.0	20.0
Mode	20	12	28	19	15	25
Standard Deviation	4.5	2.2	5.5	3.0	3.5	4.0
Minimum	5	3	7	8	6	5
Maximum	25	15	35	25	25	25

T_CPEI - Scale of importance of EI competencies in AI work environments

T_CPO - Scale of types of competencies essential for optimal performance in AI work environments

T_DO - Scale of importance of EI for organizational development in AI work environments

T_O - Scale of opportunities associated with AI in the workplace

T_R - Scale of risks associated with AI in the workplace

T_L - Scale of importance of leadership's appreciation of EI in AI work environments

The "Importance of EI competencies in AI work environments - T_CPEI" scale, which consists of five items, has a mean score of 19.3, with responses clustering around the median value of 20.0. The mode, also 20, indicates that this value is the most frequently occurring, with scores ranging from the minimum of 5 to the maximum of 25. The moderate variability (standard deviation of 4.5) indicates some diversity in opinions, but the core perception is that EI competencies are crucial in AI work environments.

The "Types of competencies essential for optimal performance in AI work environments – T_CPO" scale, with a mean score of 12.3, reflects a narrower range of responses due to its limited number of items. The lower standard deviation (2.2) and the score range from 3 to 15 suggest that respondents perceive the competencies as relatively consistent and fundamental for effective performance in AI environments. This scale highlights the technical, human, and conceptual competencies necessary for working with AI.

The "Importance of EI for organizational development in AI work environments – T_DO" scale, has a mean score of 28.9 and a standard deviation of 5.5. This indicates that EI is widely recognized as important for organizational development, but there is considerable variability

in respondents' views on its significance. The scale's broader range (7 to 35), compared to others with fewer items, reflects diverse opinions on the impact of EI on various organizational aspects such as communication, team efficiency, and innovation. The seven-item scale captures a more extensive range of perspectives, contributing to the higher mean and greater variability observed.

The "Opportunities associated with AI in the workplace – T_O" scale, consisting of five items, has a mean score of 18.0, consistent with the median and close to the mode of 19. The standard deviation of 3.0 indicates moderate variability, with scores ranging from 8 to 25. This suggests a positive perception of AI's role in enhancing workplace productivity and innovation.

For the "Risks associated with AI in the workplace – T_R" scale, which includes five items, the mean score is 15.8. The median is 15.0, and the mode is 15, suggesting that these values are common among participants. The standard deviation of 3.5 reflects moderate variability, with scores ranging from 6 to 25. This reflects a range of concerns about AI-related risks, including job displacement, data security, and other potential negative impacts of AI.

Comparing the two scales, the higher mean score for opportunities (18.0) versus risks (15.8) suggests that, on average, participants view the benefits of AI in the workplace more favorably than its potential risks. This is supported by the fact that the opportunities scale has a higher mean and closer median and mode values, indicating a more consistent positive outlook.

The "Importance of leadership's appreciation of EI in AI work environments – T_L" scale, with a mean score of 19.9, highlights the perceived importance of leadership valuing EI. The moderate variability (standard deviation of 4.0) and a mode of 25 suggest that while leadership’s appreciation is recognized as important, there are varying levels of emphasis on this factor.

4.3 Sociodemographic differences and correlations among study variables

4.3.1 Gender differences among study variables

The analysis reveals a significant gender difference in the "Types of competencies essential for optimal performance in AI work environments" (T_CPO) scale, favoring males. As shown in Table 4.11, Levene's test for equality of variances indicated that the variances between genders were not equal ($p = .028$). Therefore, the independent samples t-test was conducted to compare the two independent samples, males and females, using the formula that does not assume equal

variances. The t-test showed a significant difference ($t = -3.45$, $p < .001$) with males ($M = 13.1$, $SD = 1.5$) scoring higher on average compared to females ($M = 12.0$, $SD = 2.4$). This suggests that males, more than females, consider technical, human, and conceptual competencies as essential for optimal performance in AI work environments. This difference might be related to the higher prevalence of AI work experience among males compared to females, as indicated in Table 4.7, where a significant association between gender and work experience with AI was observed.

The findings indicate that, aside from T_CPO, gender does not significantly influence perceptions of the importance of EI competencies, organizational development, opportunities and risks associated with AI, and the value of leadership appreciation of EI in AI work environments.

Table 4.11 - t-Test for equality of scale means comparison by Gender and Levene's test

Variable	Group Gender	N	Mean	Standard Deviation	Levene's Test p-value	t	Df	p
T_CPEI	Female	107	19.2	4.6	.702	-0.11	154	.91
	Male	49	19.3	4.3				
T_CPO	Female	107	12.0	2.4	.028*	-3.45	138.07	<.001***
	Male	49	13.1	1.5				
T_DO	Female	107	29.1	5.7	.282	0.82	154	.42
	Male	49	28.4	5.0				
T_O	Female	107	17.7	3.1	.335	-1.77	154	.08
	Male	49	18.6	2.6				
T_R	Female	107	15.7	3.4	.519	-0.65	154	.52
	Male	49	16.1	3.7				
T_L	Female	107	19.8	4.4	.014*	-0.85	124.21	.40
	Male	49	20.3	3.2				

*p < .05 indicates statistical significance at the 0.05 level,; ***p < .001 indicates statistical significance at the 0.001 level.
T_CPEI - Scale of importance of EI competencies in AI work environments
T_CPO - Scale of types of competencies essential for optimal performance in AI work environments
T_DO - Scale of importance of EI for organizational development in AI work environments
T_O - Scale of opportunities associated with AI in the workplace
T_R - Scale of risks associated with AI in the workplace
T_L - Scale of importance of leadership's appreciation of EI in AI work environments

4.3.2 Differences in study variables based on prior AI work experience

The analysis of the data reveals significant differences based on prior AI work experience across several variables related to AI work environments. As shown in Table 4.12, there are notable differences in perceptions regarding competencies, organizational development, opportunities, risks, and EI leadership appreciation associated with AI work environments.

Table 4.12 - t-Test for equality of scale means comparison by prior AI work experience and Levene's test

Variable	Group Prior AI work experience	N	Mean	Standard Deviation	Levene's Test p-value	t	Df	p
T_CPEI	Yes	60	19,8	4,0	.161	1.101	154	.273
	No	96	19,0	4,7				
T_CPO	Yes	60	13,0	1,7	.061	2.819	154	.005**
	No	96	11,9	2,5				
T_DO	Yes	60	30,3	4,1	.027*	2.763	152.664	.006**
	No	96	28,0	6,0				
T_O	Yes	60	19,1	2,7	.302	3.890	154	<.001***
	No	96	17,3	3,0				
T_R	Yes	60	14,9	3,8	.263	-2.699	154	.008**
	No	96	16,4	3,2				
T_L	Yes	60	21,7	3,0	.012*	4.784	152.880	<.001***
	No	96	18,9	4,3				

*p < .05 indicates statistical significance at the 0.05 level,; **p < .01 indicates statistical significance at the 0.01; ***p < .001 indicates statistical significance at the 0.001 level.
T_CPEI - Scale of importance of EI competencies in AI work environments
T_CPO - Scale of types of competencies essential for optimal performance in AI work environments
T_DO - Scale of importance of EI for organizational development in AI work environments
T_O - Scale of opportunities associated with AI in the workplace
T_R - Scale of risks associated with AI in the workplace
T_L - Scale of importance of leadership's appreciation of EI in AI work environments

For the T_CPEI scale, which measures the importance of EI competencies in AI work environments, no significant difference was found between individuals with prior AI work experience. This indicates that both groups perceive EI competencies as similarly important in AI work contexts.

However, for the T_CPO scale, which assesses the types of competencies essential for optimal performance in AI work environments, a significant difference was observed. Those with prior AI experience (M = 13.0, SD = 1.7) rated the importance of technical, human, and conceptual competencies higher compared to those without prior experience (M = 11.9, SD = 2.5), with a p-value of 0.005. This suggests that individuals with AI experience place greater emphasis on these competencies as critical for success in AI roles.

In terms of the T_DO scale, which measures the importance of EI for organizational development in AI work environments, a significant difference was also noted. Individuals with prior AI experience (M = 30.3, SD = 4.1) rated the importance of EI for organizational development higher than those without such experience (M = 28.0, SD = 6.0), with a p-value

of 0.006. This indicates that prior AI experience correlates with a higher valuation of EI in fostering organizational development.

Regarding the T_O scale, which evaluates opportunities associated with AI in the workplace, individuals with prior AI work experience (M = 19.1, SD = 2.7) perceived more opportunities than those without experience (M = 17.3, SD = 3.0), with a highly significant p-value of less than 0.001. This shows that prior AI experience is associated with a more optimistic view of the opportunities provided by AI in the workplace.

For the T_R scale, which measures the risks associated with AI in the workplace, individuals with prior AI experience (M = 14.9, SD = 3.8) reported lower levels of perceived risk compared to those without experience (M = 16.4, SD = 3.2), with a p-value of 0.008. This suggests that those with prior AI experience perceive fewer risks associated with AI compared to those without such experience.

Lastly, the T_L scale, which assesses the importance of leadership's appreciation of EI in AI work environments, revealed a significant difference. Those with prior AI experience (M = 21.7, SD = 3.0) valued leadership's appreciation of EI more than those without prior experience (M = 18.9, SD = 4.3), with a p-value of less than 0.001. This indicates that prior AI work experience enhances the perceived importance of leadership's recognition of EI in AI environments.

These differences highlight how prior experience in AI shapes individuals' views on various aspects of AI work environments. Generally, having prior AI experience tends to increase the perceived importance of EI and enhances the recognition of opportunities associated with AI. Conversely, it is associated with a lower perception of risks related to AI, indicating a more favorable view of AI's potential in the workplace.

4.3.3 Age differences among study variables

A non-parametric Kruskal-Wallis test was conducted because, although there was homogeneity of variances, the data did not meet the assumption of normality across the different groups. This lack of normality could be related to some groups having a small number of participants. For this reason, the Kruskal-Wallis test is more appropriate for comparing more than two independent samples than the more powerful parametric ANOVA.

The results of the Kruskal-Wallis test are shown in Table 4.13.

Table 4.13 - Kruskal-Wallis test for equality of medians across age groups

Variable	Group Age	N	Median	H	Df	p
T_CPEI	Up to 25 years	18	20.5	2.146	5	.829
	26-35 years	22	19.5			
	36-45 years	22	20.0			
	46-55 years	46	20.0			
	56-65 years	40	20.0			
	65+ years	8	22.5			
T_CPO	Up to 25 years	18	13.0	5.734	5	.333
	26-35 years	22	12.0			
	36-45 years	22	13.0			
	46-55 years	46	12.0			
	56-65 years	40	12.0			
	65+ years	8	13.5			
T_DO	Up to 25 years	18	33.5	7.295	5	.200
	26-35 years	22	28.0			
	36-45 years	22	28.0			
	46-55 years	46	28.5			
	56-65 years	40	28.0			
	65+ years	8	32.0			
T_O	Up to 25 years	18	18.5	4.633	5	.462
	26-35 years	22	18.5			
	36-45 years	22	18.5			
	46-55 years	46	17.5			
	56-65 years	40	17.5			
	65+ years	8	18.0			
T_R	Up to 25 years	18	16.0	14.896	5	.011*
	26-35 years	22	13.5			
	36-45 years	22	15.0			
	46-55 years	46	17.0			
	56-65 years	40	16.5			
	65+ years	8	15.5			
T_L	Up to 25 years	18	20.0	1.434	5	.921
	26-35 years	22	20.0			
	36-45 years	22	20.0			
	46-55 years	46	20.0			
	56-65 years	40	20.0			
	65+ years	8	24.5			

*p < .05 indicates statistical significance at the 0.05 level.
T_CPEI - Scale of importance of EI competencies in AI work environments
T_CPO - Scale of types of competencies essential for optimal performance in AI work environments
T_DO - Scale of importance of EI for organizational development in AI work environments
T_O - Scale of opportunities associated with AI in the workplace
T_R - Scale of risks associated with AI in the workplace
T_L - Scale of importance of leadership's appreciation of EI in AI work environments

A pairwise comparison was conducted regarding the significant result where differences were found in the median scores of age groups for the variable T_R (Scale of risks associated with AI in the workplace). Figure 4.1 illustrates, in blue, the age pairs identified as contributing to these significant differences.

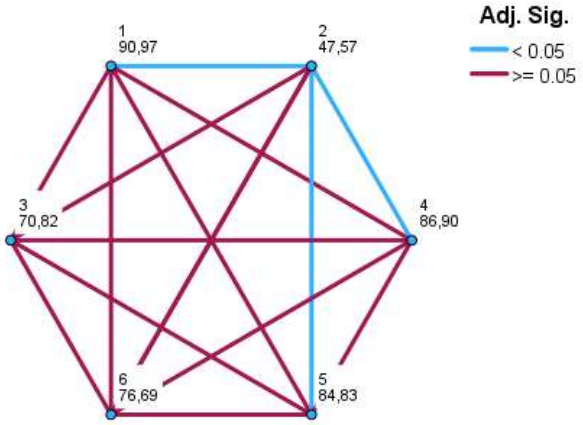

Figura 4.1 –Pairwise comparison of sample average rank for T_R Scale (risks associated with AI in the workplace) by age groups: 1 - Up to 25 years; 2 - 26-35 years; 3 - 36-45 years; 4 - 46-55 years; 5 - 56-65 years; 6 - 65+ years.

The results from Figure 4.1 reveal that significant differences in the perception of risks associated with AI in the workplace are evident between specific age groups. The up to 25 years group, with a median score of 16.0, perceives AI-related risks significantly differently from the 26-35 years group, which has a lower median of 13.5. This suggests that younger individuals might perceive AI risks as being higher compared to those slightly older.

Moreover, the 26-35 years group shows a significant difference in perceived risks compared to both the 46-55 years group and the 56-65 years group, which have higher medians of 17.0 and 16.5, respectively. This indicates that individuals in the 26-35 years range perceive AI-related risks as lower than those in the older age brackets.

These findings suggest that perceptions of risk associated with AI vary with age, with younger workers potentially viewing AI as more threatening than their slightly older counterparts. However, as individuals age, their perception of risk appears to increase. This variation might be due to differing levels of familiarity and experience with AI technologies (the age group with the highest proportion of AI experience is 26-35 years, although the chi-square test found no statistically significant association between age groups and prior experience with AI – see table 4.6), as well as varying expectations and concerns about the impact of AI in the workplace. Understanding these differences is crucial for developing

targeted strategies to address the concerns of different age groups and effectively manage AI integration in the workplace.

4.3.4 Differences in study variables by educational qualification

Given that the data did not meet the assumption of normality and some groups had a small number of participants, a non-parametric Kruskal-Wallis test was conducted to compare the medians across educational qualification groups (see Table 4.14). This approach is more suitable for comparing more than two independent samples under these conditions.

Table 4.14 - Kruskal-Wallis test for equality of medians across educational qualification groups

Variable	Group Educational Qualification	N	Median	H	Df	p
T_CPEI	Up to 9th grade	10	19.0	10.371	3	.016*
	Secondary education	23	19.0			
	Post-secondary vocational training	3	20.0			
	Higher education	120	20.0			
T_CPO	Up to 9th grade	10	12.0	11.420	3	.010*
	Secondary education	23	12.0			
	Post-secondary vocational training	3	12.0			
	Higher education	120	13.0			
T_DO	Up to 9th grade	10	23.0	18.199	3	<.001***
	Secondary education	23	28.0			
	Post-secondary vocational training	3	28.0			
	Higher education	120	30.0			
T_O	Up to 9th grade	10	16.5	14.736	3	.002**
	Secondary education	23	16.0			
	Post-secondary vocational training	3	17.0			
	Higher education	120	18.5			
T_R	Up to 9th grade	10	16.5	5.946	3	.114
	Secondary education	23	15.0			
	Post-secondary vocational training	3	19.0			
	Higher education	120	15.0			
T_L	Up to 9th grade	10	18.0	20.880	3	<.001***
	Secondary education	23	15.0			
	Post-secondary vocational training	3	21.0			
	Higher education	120	20.0			

*p < .05 indicates statistical significance at the 0.05 level,; **p < .01 indicates statistical significance at the 0.01; ***p < .001 indicates statistical significance at the 0.001 level.
T_CPEI - Scale of importance of EI competencies in AI work environments
T_CPO - Scale of types of competencies essential for optimal performance in AI work environments
T_DO - Scale of importance of EI for organizational development in AI work environments
T_O - Scale of opportunities associated with AI in the workplace
T_R - Scale of risks associated with AI in the workplace
T_L - Scale of importance of leadership's appreciation of EI in AI work environments

For the scales where significant differences were detected by the Kruskal-Wallis test, namely T_CPEI (Scale of importance of EI competencies in AI work environments), T_CPO (Scale of types of competencies essential for optimal performance in AI work environments), T_DO (Scale of importance of EI for organizational development in AI work environments), T_O (Scale of opportunities associated with AI in the workplace), and T_L (Scale of importance of leadership's appreciation of EI in AI work environments), pairwise comparisons were performed. However, in the T_CPEI and T_CPO scales, it was not possible to identify the specific educational qualification groups responsible for the detected differences. In fact, although the Kruskal-Wallis test indicated a significant difference across educational qualification groups for this variables, subsequent pairwise comparisons did not reveal specific significant group differences. This outcome suggests that the overall variation in perceptions might be distributed across multiple groups without any particular pair standing out significantly. The lack of significant pairwise differences could also be due to the small sample sizes within each group or the conservative nature of multiple comparison corrections. Further investigation with larger sample sizes may be necessary to pinpoint specific differences.

Figures 4.2, 4.3, and 4.4 illustrates, in blue, the educational qualification pairs identified as contributing to these significant differences in the T_DO (Figure 4.2), T_O (Figure 4.3), and T_L (Figure 4.4) scales.

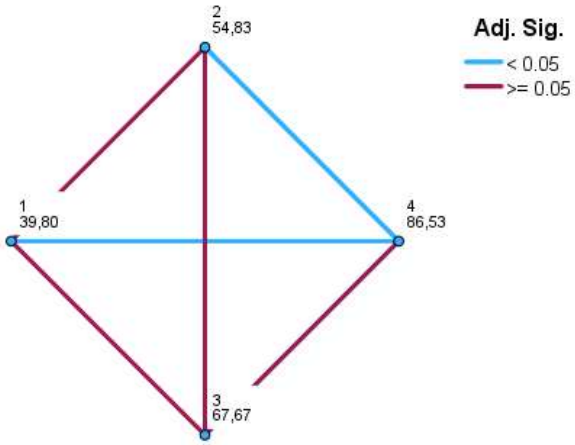

Figura 4.2 –Pairwise comparison of sample average rank for T_DO Scale (importance of EI for organizational development in AI work environments) by educational qualification groups: 1 - Up to 9th grade; 2 - Secondary education; 3 - Post-secondary vocational training; 4 - Higher education.

Figure 4.2 shows the pairwise comparisons for the T_DO Scale. Significant differences are highlighted in blue between educational qualification groups 1 (up to 9th grade) and 4 (higher education), and between groups 2 (secondary education) and 4 (higher education). For the

T_DO scale, it appears that individuals with higher educational qualifications recognize the importance of EI for organizational development more strongly than those with lower educational qualifications. This could be attributed to a greater exposure to organizational theories and practices that emphasize EI in higher education curriculums.

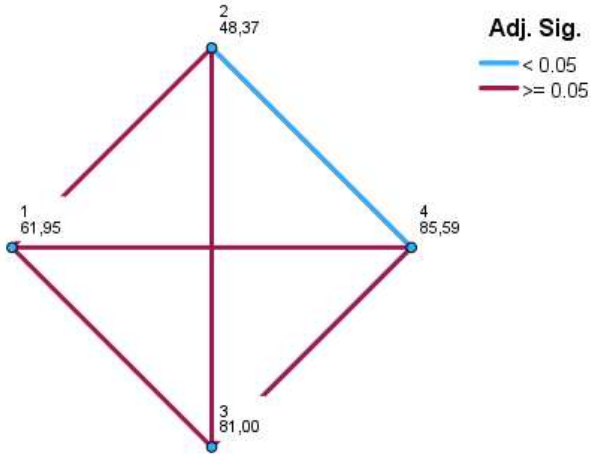

Figura 4.3 –Pairwise comparison of sample average rank for T_O Scale (opportunities associated with AI in the workplace) by educational qualification groups: 1 - Up to 9th grade; 2 - Secondary education; 3 - Post-secondary vocational training; 4 - Higher education.

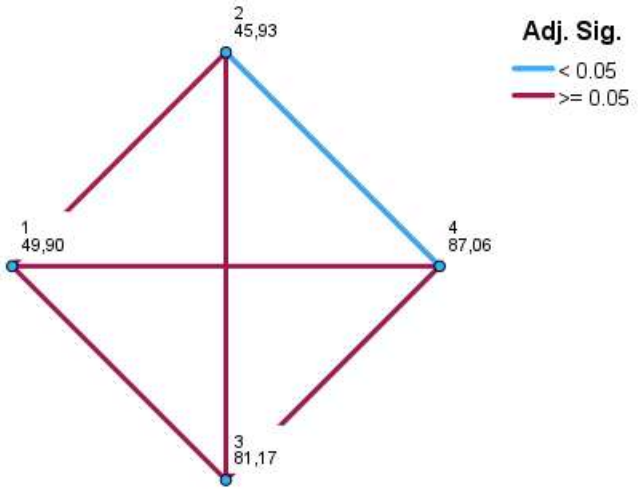

Figura 4.4 –Pairwise comparison of sample average rank for T_L Scale (importance of leadership's appreciation of EI in AI work environments) by educational qualification groups: 1 - Up to 9th grade; 2 - Secondary education; 3 - Post-secondary vocational training; 4 - Higher education.

Figures 4.3 and 4.4 reveal significant differences in the T_O Scale (opportunities associated with AI) and the T_L Scale (importance of leadership's appreciation of EI) between educational qualification groups 2 (secondary education) and 4 (higher education). The

findings suggest that individuals with higher educational qualifications perceive greater significance in the variables measured by these scales compared to those with only secondary education.

Specifically, higher education is associated with a more pronounced perception of the importance of EI in organizational development, opportunities related to AI, and leadership's appreciation of EI. These results highlight the impact of educational background on perceptions related to AI in the workplace and suggest that educational level plays a critical role in shaping these views.

4.3.5 Differences in study variables by occupational groups

Given that the data did not meet the assumption of normality and some groups had small sample sizes, a non-parametric Kruskal-Wallis test was employed to compare the medians across occupational groups (see Table 4.15 and Table 4.16). This approach is more suitable for comparing multiple independent samples under these conditions.

The results from Table 4.15 reveal significant differences for the T_CPEI (Scale of importance of EI competencies in AI work environments), with notable distinctions between occupational groups 3 (intellectual and scientific specialists) and 10 (unskilled workers), as well as between groups 4 (technician, intermediate-level) and 10 (see Figure 4.5). This suggests that individuals in higher-level positions, such as intellectual specialists and technicians, perceive the importance of EI competencies differently compared to unskilled workers.

Similarly, for the T_CPO (Scale of types of competencies essential for optimal performance in AI work environments), significant differences were found between occupational groups 3 (intellectual and scientific specialists) and 10 (unskilled workers) (see Figure 4.6), indicating a variance in the perception of essential competencies for optimal AI performance between these groups.

In the case of the T_DO (Scale of importance of EI for organizational development in AI work environments), significant differences were observed between groups 3 (intellectual and scientific specialists) and 10 (unskilled workers), and between groups 4 (technician, intermediate-level) and 10 (see Figure 4.7). This highlights that higher-level professionals, including intellectual specialists and technicians, place a greater emphasis on the role of EI in organizational development compared to unskilled workers.

Table 4.15 - Kruskal-Wallis test for equality of medians of T_CPEI, T_CPO, and T_DO across occupational groups

Variable	Group Occupational	N	Median	H	Df	p
T_CPEI	Executives, directors, and managers	11	20.0	17.590	7	.014*
	Intellectual and scientific specialists	76	20.0			
	Technician, intermediate-level	35	20.0			
	Administrative staff	11	19.0			
	Personal service, security and sales	1	-			
	Farmers, fishing, and forestry	1	-			
	Industry, construction, and artisans	2	21.5			
	Unskilled workers	19	16.0			
T_CPO	Executives, directors, and managers	11	13.0	26.927	7	<.001***
	Intellectual and scientific specialists	76	14.0			
	Technician, intermediate-level	35	12.0			
	Administrative staff	11	12.0			
	Personal service, security and sales	1	-			
	Farmers, fishing, and forestry	1	-			
	Industry, construction, and artisans	2	13.5			
	Unskilled workers	19	11.0			
T_DO	Executives, directors, and managers	11	32.0	22.614	7	.002**
	Intellectual and scientific specialists	76	30.0			
	Technician, intermediate-level	35	30.0			
	Administrative staff	11	28.0			
	Personal service, security and sales	1	-			
	Farmers, fishing, and forestry	1	-			
	Industry, construction, and artisans	2	26.5			
	Unskilled workers	19	24.0			

*p < .05 indicates statistical significance at the 0.05 level,; **p < .01 indicates statistical significance at the 0.01; ***p < .001 indicates statistical significance at the 0.001 level.
T_CPEI - Scale of importance of EI competencies in AI work environments
T_CPO - Scale of types of competencies essential for optimal performance in AI work environments
T_DO - Scale of importance of EI for organizational development in AI work environments

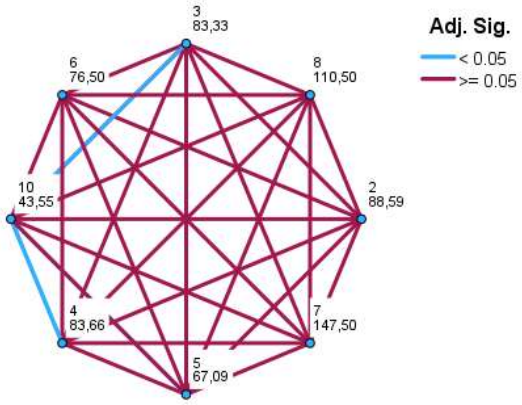

Figura 4.5 –Pairwise comparison of sample average rank for T_CPEI Scale (importance of EI competencies in AI work environments) by occupational groups: 2 - Executives, directors, and managers; 3 - Intellectual and scientific specialists; 4 - Technician, intermediate-level; 5 - Administrative staff; 6 - Personal service, security and sales; 7 - Farmers, fishing, and forestry; 8 - Industry, construction, and artisans; 10 - Unskilled workers.

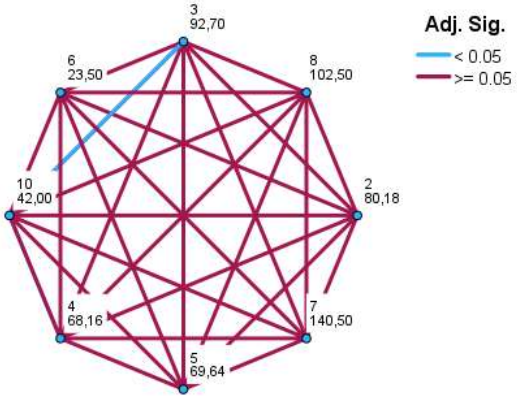

Figura 4.6 –Pairwise comparison of sample average rank for T_CPO Scale (types of competencies essential for optimal performance in AI work environments) by occupational groups: 2 - Executives, directors, and managers; 3 - Intellectual and scientific specialists; 4 - Technician, intermediate-level; 5 - Administrative staff; 6 - Personal service, security and sales; 7 - Farmers, fishing, and forestry; 8 - Industry, construction, and artisans; 10 - Unskilled workers.

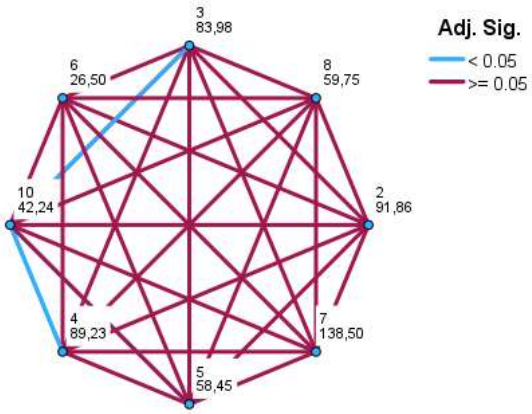

Figura 4.7 –Pairwise comparison of sample average rank for T_DO Scale (importance of EI for organizational development in AI work environments) by occupational groups: 2 - Executives, directors, and managers; 3 - Intellectual and scientific specialists; 4 - Technician, intermediate-level; 5 - Administrative staff; 6 - Personal service, security and sales; 7 - Farmers, fishing, and forestry; 8 - Industry, construction, and artisans; 10 - Unskilled workers.

Table 4.16 provides insights into the T_O (Scale of opportunities associated with AI in the workplace) and T_L (Scale of importance of leadership's appreciation of EI in AI work environments) scales. Although significant differences were noted for the T_O scale, pairwise comparisons did not pinpoint specific groups contributing to these differences. This lack of clarity could be attributed to small sample sizes within each group or the conservative nature of multiple comparison corrections. In contrast, for the T_L scale, significant differences were found between groups 3 (Intellectual and scientific specialists) and 10 (Unskilled workers), 4 (Technician, intermediate-level) and 10, and 3 (Intellectual and scientific specialists) and 5 (Administrative staff) (see Figure 4.8). This suggests that higher occupational groups generally recognize the importance of leadership’s appreciation of EI more than those in lower or intermediate positions.

Table 4.16 - Kruskal-Wallis test for equality of medians of T_O, T_R, and T_L across occupational groups

Variable	Group Occupational	N	Median	H	Df	p
T_O	Executives, directors, and managers	11	19.0	19.173	7	.008**
	Intellectual and scientific specialists	76	19.0			
	Technician, intermediate-level	35	18.0			
	Administrative staff	11	16.0			
	Personal service, security and sales	1	-			
	Farmers, fishing, and forestry	1	-			
	Industry, construction, and artisans	2	20.5			
	Unskilled workers	19	15.0			
T_R	Executives, directors, and managers	11	15.0	12.036	7	.099
	Intellectual and scientific specialists	76	15.0			
	Technician, intermediate-level	35	16.0			
	Administrative staff	11	15.0			
	Personal service, security and sales	1	-			
	Farmers, fishing, and forestry	1	-			
	Industry, construction, and artisans	2	18.5			
	Unskilled workers	19	17.0			
T_L	Executives, directors, and managers	11	20.0	33.221	7	<.001***
	Intellectual and scientific specialists	76	21.5			
	Technician, intermediate-level	35	20.0			
	Administrative staff	11	18.0			
	Personal service, security and sales	1	-			
	Farmers, fishing, and forestry	1	-			
	Industry, construction, and artisans	2	20.50			
	Unskilled workers	19	15.0			

**p < .01 indicates statistical significance at the 0.01; ***p < .001 indicates statistical significance at the 0.001 level.
T_O - Scale of opportunities associated with AI in the workplace
T_R - Scale of risks associated with AI in the workplace
T_L - Scale of importance of leadership's appreciation of EI in AI work environments

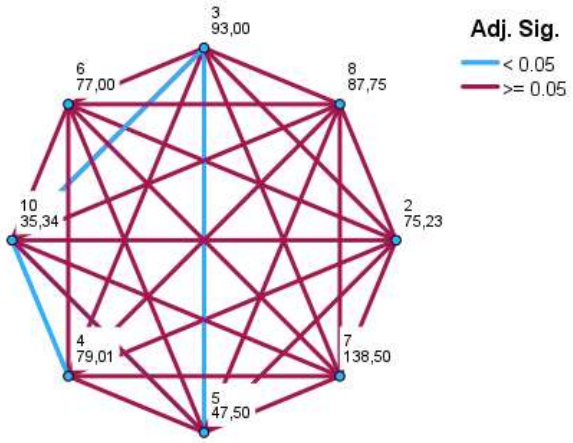

Figura 4.8 –Pairwise comparison of sample average rank for T_L Scale (importance of leadership's appreciation of EI in AI work environments) by occupational groups: 2 - Executives, directors, and managers; 3 - Intellectual and scientific specialists; 4 - Technician, intermediate-level; 5 - Administrative staff; 6 - Personal service, security and sales; 7 - Farmers, fishing, and forestry; 8 - Industry, construction, and artisans; 10 - Unskilled workers.

These findings underscore the impact of occupational level on perceptions related to EI and AI in the workplace. Higher occupational groups generally have a more developed view on the significance of EI, its role in organizational development, and leadership's appreciation of EI compared to those in lower occupational levels, highlighting the need for tailored approaches to address AI-related concerns and perceptions across different professional roles.

4.3.6 Correlations among study variables

Table 4.17 presents correlations among various questionnaire scales, revealing several significant relationships at the 0.01 level.

Table 4.17 - Correlations of Questionnaire Scales

	T_CPEI	T_CPO	T_DO	T_O	T_R	T_L
T_CPEI	1					
T_CPO	.644**	1				
T_DO	.584**	.585**	1			
T_O	.235**	.359**	.422**	1		
T_R	-0.023	0.067	-0.038	-0.093	1	
T_L	.578**	.627**	.677**	.422**	-0.126	1

**The correlation is significant at the 0.01 level.
T_CPEI - Scale of importance of EI competencies in AI work environments
T_CPO - Scale of types of competencies essential for optimal performance in AI work environments
T_DO - Scale of importance of EI for organizational development in AI work environments
T_O - Scale of opportunities associated with AI in the workplace
T_R - Scale of risks associated with AI in the workplace
T_L - Scale of importance of leadership's appreciation of EI in AI work environments

The results indicate strong positive correlations between several scales. For instance, the correlation between T_CPEI and T_CPO (.644) suggests that individuals who value EI competencies highly also recognize a wide range of competencies as crucial for optimal performance in AI work environments. Similarly, T_CPEI shows a strong correlation with T_DO (.584) and T_L (.578), highlighting that these scales, which most closely relate to the concept of EI in terms of competencies, their importance for organizational development in AI work contexts, and their appreciation by leadership, are interlinked. This is further reinforced by the correlation between T_CPO and T_DO (.585), indicating that a broad skill set of human skills in AI work contexts, including EI, is considered essential for both personal and organizational success.

The strong correlation between T_CPO and T_L (.627) and the even stronger correlation between T_DO and T_L (.677) underscore the critical role of leadership in fostering and appreciating EI within organizations. These findings suggest that where human competencies are valued, leadership also tends to appreciate their significance, and this appreciation plays a crucial role in promoting EI for organizational growth.

Additionally, moderate correlations are observed between T_DO and T_O (.422) and between T_L and T_O (.422). This indicates that organizations whose workers value EI for promoting organizational development and have leaders who appreciate EI are more likely to recognize positive opportunities associated with AI implementation.

On the other hand, the T_R scale, which measures risks associated with AI, shows weak or no significant correlations with the other scales. This indicates that perceptions of AI-related risks are relatively independent of the importance of EI competencies, types of competencies for optimal performance, EI for organizational development, opportunities associated with AI, and leadership's appreciation of EI. This suggests that concerns about AI risks may be influenced by different factors not directly related to EI and leadership perspectives, such as technological familiarity, age of workers, personal experiences with AI, or external influences like media portrayal of AI risks.

These findings highlight that while workers' perceptions of the importance of EI and their perception of leadership valuing EI can positively impact organizational development and performance, additional strategies may be needed to address and manage the perceived risks associated with AI. This is particularly relevant given earlier findings that showed varying perceptions of AI-related risks across different age groups, indicating the need for tailored management approaches to address these concerns effectively.

4.4 Reliability and validity of questionnaire scales

In order to study the reliability of the scales that make up the questionnaire used in the investigation, Cronbach's alpha coefficients were determined for the scales, as well as the value of these coefficients if each of the items comprising the scales were excluded. From the analysis of Table 4.18, it is possible to verify that the Cronbach's alpha coefficients range between .721 and 0.955, which provides evidence of adequate internal consistency and precision of the scales.

Table 4.18 - Cronbach's Alpha for scales and item exclusion

Scale	Cronbach's Alpha	Cronbach's Alpha if item excluded
T_CPEI	0.915	CPEI item 1 - 0.894
		CPEI item 2 - 0.888
		CPEI item 3 - 0.886
		CPEI item 4 - 0.926
		CPEI item 5 - 0.885
T_CPO	0.841	CPO item 6 - 0.797
		CPO item 7 - 0.827
		CPO item 8 - 0.717
T_DO	0.955	DO item 9 – 0.948
		DO item 10 – 0.945
		DO item 11 – 0.946
		DO item 12 – 0.951
		DO item 13 - 0.950
		DO item 14 - 0.947
		DO item 15 – 0.949
T_O	0.773	O item 16 – 0.719
		O item 18 – 0.704
		O item 20 – 0.695
		O item 22 – 0.781
		O item 24 - 0.757
T_R	0.721	R item 17 – 0.599
		R item 19 – 0.640
		R item 21 – 0.787
		R item 23 – 0.670
		R item 25 - 0.628
T_L	0.949	L item 26 – 0.940
		L item 27 – 0.935
		L item 28 – 0.934
		L item 29 – 0.933
		L item 30 - 0.946

T_CPEI - Scale of importance of EI competencies in AI work environments
T_CPO - Scale of types of competencies essential for optimal performance in AI work environments
T_DO - Scale of importance of EI for organizational development in AI work environments
T_O - Scale of opportunities associated with AI in the workplace
T_R - Scale of risks associated with AI in the workplace
T_L - Scale of importance of leadership's appreciation of EI in AI work environments

However, in the T_CPEI scale, if item 4, "being able to effectively manage others' emotions and influence them," were excluded, the Cronbach's alpha would increase from 0.915 to 0.926. This suggests that this item, which is more associated with the regulation of others' emotions, seems less aligned with workers' perceptions of other EI competencies, which appear to be more related to self-regulation and the identification of one's own and others' emotions, but not

with the regulation of others' emotions. Similarly, in the T_O scale, item 22, "reduces workplace accidents," would also increase the Cronbach's alpha of the scale from 0.773 to 0.781 if excluded. This is the only item in the opportunities scale that would reduce a negative condition (existence of accidents) instead of increasing a positive condition in the AI workplace contexts, as is the case with the other items, which might help explain this finding. Finally, item 21, "requires labor skills that most workers do not possess," from the T_R scale, would also increase the Cronbach's alpha of the scale from 0.721 to 0.787 if excluded. This item refers more to the skills that workers may not possess and less to the workplace transformations perceived as threatening by workers, as is the case with the other items in this scale.

In summary, the analysis indicates that while the scales demonstrate good internal consistency overall, specific items could be reconsidered to further improve the reliability of the scales.

A factor analysis was conducted to investigate the construct validity of the questionnaire, aiming to understand how the different dimensions of the items cluster and align with the various aspects intended to be assessed in the research.

Table 4.19 presents the rotated factor matrix of questionnaire items, revealing how each item loads onto different factors after rotation. Factor I shows high loadings from items related to the importance of EI for organizational development, indicating this factor reflects the overall significance of EI in enhancing organizational performance and development. Factor II primarily includes items from the scale assessing the importance of EI competencies in AI-integrated work environments, suggesting this factor captures the essential EI competencies required in such settings. Factor III exhibits high loadings from items on the importance of leadership’s appreciation of EI, emphasizing how leadership’s valuing of EI influences the AI work environment. Factor IV shows strong loadings from items about opportunities associated with AI, reflecting perceptions of the positive impacts and advantages of AI in the workplace. Factor V includes items related to risks associated with AI, highlighting concerns and potential negative impacts of AI technologies. Factor VI features significant loadings from the scale on types of competencies essential for optimal performance, indicating it represents a broader view of the necessary competencies in AI environments.

The factors together explain a cumulative variance of 66.12%. The analysis revealed that the items load onto distinct factors that reflect the expected dimensions, corresponding almost exactly to the scales that comprise the questionnaire. Thus, the construct validity of the questionnaire is supported by these results, indicating that the instrument effectively captures the relevant variables as preconized.

Table 4.19 - Rotated factor matrix of questionnaire items

Items	Fator I	Fator II	Fator III	Fator IV	Fator V	Fator VI	h^2
CPEI item 1	0,20	0,80	0,27	-0,06	-0,01	0,02	0.75
CPEI item 2	0,25	0,81	0,18	0,11	0,08	0,11	0.79
CPEI item 3	0,31	0,78	0,21	0,05	-0,12	0,13	0.78
CPEI item 4	0,18	0,63	0,13	0,19	0,13	0,11	0.51
CPEI item 5	0,31	0,78	0,20	0,01	-0,11	0,20	0.80
CPO item 6	0,19	0,28	0,24	0,19	0,12	0,57	0.55
CPO item 7	0,33	0,56	0,23	0,07	0,06	0,48	0.72
CPO item 8	0,27	0,30	0,33	0,15	0,05	0,71	0.80
DO item 9	0,74	0,28	0,27	0,17	-0,02	0,17	0.76
DO item 10	0,83	0,22	0,18	0,19	-0,07	0,17	0.84
DO item 11	0,78	0,28	0,26	0,17	0,07	0,18	0.81
DO item 12	0,71	0,33	0,30	0,12	-0,01	0,06	0.72
DO item 13	0,73	0,26	0,26	0,14	-0,03	0,07	0.70
DO item 14	0,84	0,16	0,17	0,15	-0,04	0,09	0.80
DO item 15	0,77	0,18	0,26	0,17	0,04	0,10	0.74
O item 16	0,25	0,07	0,09	0,65	-0,03	-0,07	0.51
O item 18	0,18	0,08	0,30	0,62	-0,08	0,27	0.60
O item 20	0,26	0,03	0,16	0,67	-0,19	0,15	0.61
O item 22	-0,02	0,14	-0,01	0,61	0,20	-0,02	0.44
O item 24	0,14	-0,10	0,15	0,47	-0,21	0,21	0.36
R item 17	-0,09	-0,12	-0,16	-0,10	0,79	0,12	0.70
R item 19	-0,09	-0,05	-0,09	-0,09	0,70	-0,11	0.52
R item 21	0,11	0,07	0,04	0,13	0,18	0,12	0.08
R item 23	0,05	0,14	0,02	0,08	0,54	0,12	0.34
R item 25	0,01	-0,03	-0,01	-0,09	0,74	-0,08	0.57
L item 26	0,34	0,25	0,68	0,22	-0,12	0,26	0.77
L item 27	0,37	0,30	0,73	0,13	-0,07	0,24	0.84
L item 28	0,27	0,27	0,78	0,20	-0,09	0,21	0.86
L item 29	0,35	0,24	0,78	0,12	-0,05	0,17	0.83
L item 30	0,34	0,25	0,74	0,13	-0,05	-0,01	0.74
Eigenvalue (λ)	12.29	2.87	2.28	1.82	1.50	1.10	
Variance (%)	18.35	14.25	12.66	7.83	7.45	5.58	
Cumulative Variance (%)	18.35	32.60	45.26	53.09	60.54	66.12	

CPEI - items of scale of importance of EI competencies in AI work environments
CPO - items of scale of types of competencies essential for optimal performance in AI work environments
DO - items of scale of importance of EI for organizational development in AI work environments
O - items of scale of opportunities associated with AI in the workplace
R - items of scale of risks associated with AI in the workplace
L - items of scale of importance of leadership's appreciation of EI in AI work environments

5. Conclusions and Recommendations

This thesis explores the role of EI in workplaces increasingly integrated with AI. As AI becomes more prevalent, understanding employees' perceptions of EI's importance is crucial for developing effective management strategies that promote successful AI adoption and enhance organizational performance. The study employed a survey methodology to quantitatively analyze responses from workers, examining their views on EI competencies and the different types of human skills considered essential for optimal professional performance, leadership appreciation of EI, and the perceived opportunities and risks associated with AI in the workplace. The findings suggest a strong alignment with existing literature, emphasizing the critical role of EI in navigating the challenges posed by AI integration.

The integration of AI in workplaces presents both opportunities and challenges. This thesis investigates how EI can help manage these changes by fostering a supportive work environment and facilitating smoother transitions. The study is motivated by the need to understand how EI contributes to organizational development and employee well-being in AI-enhanced settings. The research questions focus on employees' perceptions of EI's relevance, the significance of leadership in valuing EI, and the perceived impacts of AI on job security and workplace dynamics.

The literature review covers the development and applications of AI, highlighting its transformative potential in automating tasks and enhancing efficiency. However, it also points out the risks, including potential job displacement and ethical concerns. The review then explores various models of EI, such as those proposed by Salovey and Mayer, Goleman, and Bar-On, and their implications for workplace dynamics. It emphasizes the importance of EI in leadership and its role in creating an inclusive, adaptive, and innovative work culture, especially in the context of AI.

The study adopted a quantitative approach, utilizing a structured questionnaire designed to capture diverse aspects of EI and AI integration. The questionnaire included items on the perceived importance of EI in AI-integrated work environments, the role of leadership in appreciating EI, and the risks and opportunities associated with AI. Data were collected from a diverse sample of workers using online platforms, ensuring broad representation. The responses were analyzed using statistical methods, including descriptive and inferential statistics, to identify key trends and relationships.

The results indicate that employees generally view EI as crucial for personal and organizational success in AI-integrated workplaces. There is a consensus on the need for

leadership to value and foster EI, as it is seen as instrumental in navigating the challenges posed by AI. The study also reveals mixed perceptions about AI's impact on job security, with some participants expressing concerns about potential job losses, and some participants expressing that AI can either complement human work and enhance productivity. The findings underscore the importance of comprehensive management strategies that address both the technological and human aspects of AI integration.

The study variables T_DO (scale of importance of EI for organizational development in AI work environments), T_L (scale of importance of leadership's appreciation of EI in AI work environments), and T_O (scale of opportunities associated with AI in the workplace) show significantly different results favoring those with prior experience with AI, higher educational qualifications, and professions requiring greater professional qualification. Higher educational qualifications and a profession with a higher level of qualification also show significantly higher statistical results concerning the variables T_CPEI (scale of importance of EI competencies in AI work environments) and T_CPO (scale of types of competencies essential for optimal performance in AI work environments). Additionally, for the variable T_CPO, significant gender differences were found, with results being more favorable to men. Finally, the T_R scale (scale of risks associated with AI in the workplace) appears to be sensitive to both not having previous experience with AI and age. In fact, younger workers may view AI as more threatening, and as individuals age, their perception of risk seems to increase.

In light of these differences, leadership practices should be adapted to address the varied needs and concerns related to AI. This includes providing targeted training and support to enhance AI literacy across different experience levels and educational backgrounds. Leaders should also consider implementing strategies that promote gender equity and address age-related concerns by fostering an inclusive environment that acknowledges and mitigates perceived risks associated with AI. Tailoring leadership approaches to these diverse factors will help ensure a more balanced and effective integration of AI in the workplace.

In concluding this study, the data point to EI playing a vital role in managing the transition towards AI-enhanced workplaces. The findings highlight the necessity for organizations to prioritize EI in their leadership development programs and to cultivate a supportive environment that values human competencies alongside technological advancements. This research suggests several areas for future exploration, including the long-term impacts of AI on workforce dynamics and the potential for EI to mitigate negative effects. Recommendations for practice include fostering an organizational culture that values continuous learning and

emotional awareness, as well as implementing policies that support employee well-being and job security in the face of technological change.

This research provides valuable insights for organizations looking to integrate AI effectively while maintaining a focus on human-centric values and competencies. The findings contribute to the broader discourse on the future of work, emphasizing the need for a balanced approach that leverages both technological innovation and emotional intelligence.

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