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Public Perception of Artificial Intelligence in Leadership: Trust, Skills, and Desirability

Felix-Constantin Dorner

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Ana Filipa Martinho de Almeida

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Abstract

Title: Public Perception of Artificial Intelligence in Leadership: Trust, Skills, and Desirability

Author: Felix-Constantin Dorner

Topic: The integration of Artificial Intelligence (AI), particularly Generative AI, is transforming business processes and prompting questions about its potential role in leadership. This thesis investigates public perceptions of AI leadership in comparison to human leadership, focusing on key trust factors (ability, integrity, and benevolence) and the perceived competence of AI in essential leadership skills, and how these factors impact the desirability of AI in a leadership role.

Methods: Two quantitative studies were conducted. Study 1 examined trust in AI leadership in direct comparison to trust in human leadership. Study 2 assessed public perceptions of AI's capabilities in fulfilling leadership roles based on the 23 essential leadership skills identified in the O*NET Database. The studies are based on randomized samples from 314 participants (Study 1) and 207 participants (Study 2).

Findings: Results from Study 1 revealed that human leaders are significantly more desired than AI leaders, driven by differences in perceived trustworthiness, (ability, integrity, and benevolence), whereas ability was the strongest factor. Study 2 showed that while AI is perceived as capable in technical skills, its lack of social skills, particularly negotiation and social perceptiveness, negatively affects its overall desirability and perceived capability as a leader. The results show that a decrease in perceived ability (trust factor) does lead to a significant decrease in trust, whereas an increase in perceived skill level does not lead to an increase in desirability. The findings highlight the need for AI to improve its social capabilities to be accepted in leadership roles.

Keywords: Artificial Intelligence (AI), AI leadership, AI trustworthiness, AI in workplace, automation, public perception, leadership roles, chief executive, trust, ability, integrity, benevolence, skills, desirability, capability.

Sumário

Título: Public Perception of Artificial Intelligence in Leadership: Trust, Skills, and Desirability

Autor: Felix-Constantin Dorner

A integração da Inteligência Artificial (IA), particularmente a IA Generativa, está a transformar os processos empresariais e a levantar questões sobre seu potencial papel em cargos de liderança. Esta tese investiga as percepções públicas sobre a liderança de IA em comparação com a liderança humana, com foco nos principais fatores de confiança (habilidade, integridade e benevolência) e na competência percebida da IA nas habilidades essenciais de liderança. Também, examina como esses fatores impactam a desejabilidade da IA em papéis de liderança.

Para tal, foram realizados dois estudos quantitativos. O Estudo 1 examinou a confiança na liderança de IA em comparação direta com a confiança na liderança humana. O Estudo 2 avaliou as percepções públicas sobre as capacidades da IA em desempenhar funções de liderança com base nas 23 habilidades essenciais de liderança identificadas no banco de dados O*NET. Os estudos foram baseados em amostras randomizadas de 314 participantes (Estudo 1) e 207 participantes (Estudo 2).

Os resultados do Estudo 1 mostram que líderes humanos são preferidos a líderes de IA, principalmente por diferenças na confiabilidade percebida, com a habilidade sendo o fator mais forte. O Estudo 2 revela que, embora a IA seja vista como tecnicamente capaz, sua falta de habilidades sociais, como negociação e percepção social, reduz sua desejabilidade e capacidade percebida como líder. A redução na habilidade percebida diminui significativamente a confiança, mas seu aumento não eleva a desejabilidade. Conclui-se que a IA precisa melhorar suas habilidades sociais para ser aceita em papéis de liderança.

Palavras-chave: Inteligência Artificial (IA), liderança de IA, confiabilidade de IA, IA no local de trabalho, automação, percepção pública, papéis de liderança, executivo-chefe, confiança, habilidade, integridade, benevolência, habilidades, desejabilidade, capacidade.

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Table of Content

- Abstract I
- Sumário II
- Acknowledgement III
- Table of Content IV
- List of Abbreviation VI
- List of Figures VII
- List of Tables VIII
- 1. Introduction..... 1
 - 1.1 Structure of the Thesis2
- 2. Literature Review2
 - 2.1 Automation and the Future Workplace2
 - 2.2 Introduction to Artificial Intelligence3
 - 2.3 AI’s Potential in Leadership Roles4
 - 2.4 Trust in Leadership6
 - 2.5 Skills Required for Leadership8
 - 2.6 Studies Overview10
- 3. Study 1 - Trust.....11
 - 3.1 Research Objective11
 - 3.2 Sample11
 - 3.3 Research Design12
 - 3.4 Categories of Trust13
 - 3.5 Procedure13
 - 3.6 Data Preparation and Scale Reliability14
 - 3.7 Results of Study 1 - Trust.....14
 - 3.7.1 Scale Assessment.....14
 - 3.7.2 Hypothesis Testing15

4. Study 2 - Skills	18
4.1 Research Objective	18
4.2 Research Model	18
4.3 Sample	19
4.4 O*NET Questionnaire	20
4.5 Procedure	20
4.6 Data Preparation and Scale Reliability	21
4.7 Results of Study 2 - Skills	21
4.7.1 Scale Assessment.....	21
4.7.2 Hypothesis Testing	21
5. Discussion.....	25
5.1.1. Study 1 - Trust.....	25
5.1.2 Study 2 - Skills	26
5.2 Implications for AI in Leadership Positions.....	28
5.4 Limitations.....	28
5.5 Future Research	29
6. Conclusion.....	29
References	30
Appendix	41
Appendix 1: Original survey framework of trust by Mayer (1999).....	41
Appendix 2: List of all Skills with explanations	42
Appendix 3: Survey 1	43
Appendix 4: Survey 2.....	45
Appendix 5: Survey 1 Results	49
Appendix 6: Survey 2 Results	53

List of Figures

Figure 1: Skills and skill groups from O*NET	9
Figure 2: Research Model Survey 1-Trust	12
Figure 3: Research Model for Survey 2 - Skills.....	19

List of Tables

Table 1: Independent sample t-test between AI and Human and Desirability	15
Table 2: Independent sample t-test between AI and Human in ‘Ability’	15
Table 3: Independent sample t-test between AI and Human in ‘Integrity’	16
Table 4: Independent sample t-test between AI and Human in ‘Benevolence’	17
Table 5: Descriptive results of the linear multiple regression for RQ3	17
Table 6: Paired sample t-test between perceived capability and desirability	21
Table 7: Multiple linear regression skill groups and perceived capability	22
Table 8: Multiple linear regression of skill groups and desirability	23
Table 9: Descriptive results of the correlation between all skills and capability	24
Table 10: Paired sample t-test results of the mean of all skills and capability	24
Table 11: Paired sample correlation of the mean of all skills and capability	24

List of Abbreviations

ABI	Ability, Benevolence, Integrity (trust dimensions)
AI	Artificial Intelligence
CEO	Chief Executive Officer
DL	Deep Learning
GPT	Generative Pre-trained Transformer
M	Mean
ML	Machine Learning
NLP	Natural Language Processing
O*NET	Occupational Information Network
RQ	Research Question
SD	Standard Deviation

1. Introduction

The emergence of Artificial Intelligence (AI) has introduced a transformative wave across multiple sectors, promising efficiencies and novel solutions that redefine our understanding of the workplace (Candelon et al., 2023). The launch of ChatGPT in late 2022 sparked a surge of global interest and awareness in Generative AI, leading to increased adoption in the business world by 2023 (Bergmann, 2024). Just one year after the release of ChatGPT, more than half of the companies investigated by PwC had integrated Generative AI into their business operations (PwC, 2023). The global AI market experienced substantial growth in 2024, increasing by nearly \$50 billion from the previous year to surpass \$184 billion. Projections indicate that the market will continue to expand, reaching over \$826 billion by 2030 (Statista, 2023). The anticipated business disruption from Generative AI is projected to remain profound for the future workplace (McKinsey & Company, 2023).

While the introduction of AI in the workplace is welcomed by some, it is met with disapproval and aversion by others (Parker, 2018). Generative AI has the potential to automate aspects of up to two-thirds of full-time jobs (Goldman Sachs, 2023). As AI continues to rapidly integrate into the workplace, increasingly taking on supportive and subordinate tasks (Xu et al., 2020), the question arises: what if AI assumes a primary leadership role in the future? While extensive research has been conducted on AI, the specific topic of AI in leadership reveals an interesting research gap: *An in-depth analysis of public perception of AI as a leadership figure.*

This study will first explore public perception of trust in AI when placed in a leadership role on the example of a chief executive, and directly compares it to the perceived trust towards a human chief executive, while identifying which aspect of trust (ability, integrity, or benevolence) most significantly influences the perceived desirability of AI leaders. Furthermore, the study examines public perceptions of the skills required for AI to assume a chief executive role, as defined by the O*NET Database. The research further investigates whether particular skills are perceived as strong or weak and how they influence perceived capability and desirability of AI in a leadership role.

The findings will provide an overview of current public perceptions of AI in the workplace as an overarching entity. By identifying specific areas where perceived trust and AI skill levels are lacking, businesses can gain insights to guide their adoption of AI solutions in leadership

roles. This understanding helps pinpoint potential challenges, and promoting greater acceptance during implementation. Additionally, this research can serve as a foundational starting point for further exploration into related areas. To address the identified research gap, this dissertation aims to answer the following research questions.:

1. How desirable is AI leadership in public compared to human leadership?
2. How much does the public trust AI in leadership compared to human leadership?
3. Does one of the three categories of trust (competence, integrity, benevolence) affect perceived public desirability of AI in leadership positions more than others?
4. How capable does the public perceive AI in fulfilling leadership roles?

1.1 Structure of the Thesis

The structure of this dissertation follows the classical structure of empirical research papers. The introduction defines the general topic, the research gap, and the research implications. Chapter 2 provides an overview of the existing literature and summarizes relevant concepts related to the history, development and current state of AI, as well as its potential in leadership and trustworthiness, and presents the hypotheses. In order to address the research questions, two quantitative studies were conducted. Chapter 3 presents the methodology and the results of *Study 1 - Trust*. Chapter 4 presents the methodology and the results of *Study 2 - Skills*. Chapter 5 discusses the results from both studies. Chapter 6 provides the conclusion of this dissertation, summarizing all findings.

2. Literature Review

2.1 Automation and the Future Workplace

Automation is significantly impacting the future of work across various sectors, potentially altering productivity and even entire job roles (Manyika et al., 2017). While only a small fraction of occupations, less than 5 percent, may be fully automated in the near future, approximately 60 percent could experience partial automation of tasks (Manyika et al., 2017). With the rise of autonomous means of transportation, the transport industry is an example of substantial changes by 2040 (Schröder-Hinrichs et al., 2019). The implementation of automation holds the potential to boost global productivity growth by 0.8-1.4 percent annually (Manyika et al., 2017). Moreover, as automation reshapes industries, the resulting changes in job roles and productivity will necessitate new strategies for workforce development (Bughin

et al., 2018). There will be an increased demand for skills that complement AI and automation technologies, creating opportunities for new roles while also displacing some traditional jobs (Tyson & Zysman, 2022). This underscores the importance of continuous learning and adaptation to ensure that workers remain relevant in an AI-driven economy (Frank et al., 2019). However, the pace and extent of automation adoption will largely depend on technical, economic, and social factors (Manyika et al., 2017). To navigate this transition effectively, organizations must balance the benefits of automation with potential downsides, requiring careful management and strategic planning (Willcocks & Lacity, 2016). The trend of automation is now reinforced by innovations in AI and its growing implementation in the workplace, and is currently regarded as the most significant market opportunity. (Market Research Future, 2020).

2.2 Introduction to Artificial Intelligence

AI has introduced a transformative shift across various sectors, offering efficiencies and novel solutions that are reshaping our understanding of the modern workplace (Candelon et al., 2023). Although it has only recently become a topic of widespread interest, AI's origins date back several decades (Verganti et al., 2020; Weber et al., 2021). Early research can be traced to British mathematician Alan Turing, who in 1950 posed the question of whether machines could think. He introduced the Turing Test, which was designed to assess whether a machine's behavior could be indistinguishable from that of a human (Panesar, 2021). The term "artificial intelligence" was introduced by John McCarthy in 1956, with the assumption that any aspect of learning or intelligence could be sufficiently described to be simulated by a machine (Collins et al., 2021). Today, AI is understood to perform specific tasks simulating human intelligence within defined limits, though without conscious awareness (Russell & Norvig, 2016). AI serves as an umbrella term that encompasses various subfields, including Machine Learning (ML) and Deep Learning (DL) (Tiwari et al., 2018).

ML, a core area within AI, involves algorithms and statistical models that enable systems to perform tasks without explicit programming (Bishop & Nasrabadi, 2006). ML techniques, such as supervised learning, unsupervised learning, and reinforcement learning, are applied in areas like predictive analytics, customer segmentation, and autonomous systems (Lee & Shin, 2020; Mobarak et al., 2023). DL, a subset of ML, uses artificial neural networks to mimic human

brain function and excels in tasks like image and speech recognition (Dubey et al., 2024). A specific application within DL is generative AI, which generates new data like text or images using neural networks trained on existing patterns (Kulkarni et al., 2023). Models like Generative Pre-Trained Transformers (GPT) exemplify this, as they excel in processing and generating natural language (Liao et al., 2024). AI systems follow a structured process: data collection (input), pre-processing (analysis using natural language processing techniques), main processing (machine learning or reasoning), and output generation (Paschen et al., 2020). While AI systems can produce human-comparable results, especially in professional and academic contexts, their performance is limited by the scope of the training data. There is a field of research that focuses on developing machines with consciousness, however significant results, if achievable, are likely to be far in the future (Gamez, 2008). Those AI systems can be implemented across a variety of organizations (Wamba-Taguimdje et al., 2020), and are now being implemented in multiple sectors, including law enforcement, social welfare, criminal justice, and immigration (Alon-Barkat & Busuioc, 2022), as well as in marketing, manufacturing, corporate management, and customer service (Jelonek et al., 2019), healthcare, banking, and education (Ooi et al., 2023).

2.3 AI's Potential in Leadership Roles

The integration of advanced technologies is expected to significantly transform leadership roles across various organizational contexts in the near future (Candelon et al., 2023). It has now become imperative for managers to possess, alongside traditional leadership attributes, technical acumen in AI and data science to manage complex scenarios (Weiss Nguyen & Shaik, 2024). Familiarity with AI technologies is essential for effectively leveraging these tools to drive innovation, optimize processes, and maintain a competitive advantage (Mohan et al., 2024). In a matter of years, AI has been integrated into daily work procedures, where it assists in making data-driven decisions while human judgment remains essential for guiding ethical and moral considerations (Wang, 2021). AI even has shown the potential to outperform human managers in specific roles, such as crisis leadership, where it aids in information gathering, predictive modelling, and strategic action implementation (McNulty et al., 2024). AI has also demonstrated the ability to outperform humans in decision-making processes by minimizing biases that are often present in human judgments. This objectivity allows AI systems to analyse data and make decisions based on patterns and evidence, without being influenced by cognitive

biases, emotions, or preconceived notions that frequently affect human decision-makers. Consequently, AI offers a more impartial and data-driven approach to complex decision-making tasks (Alon-Barkat & Busuioc, 2022). Especially in uncertain times with inflation, labor shortages and possible recession, organizations could significantly benefit from increasing implementation of AI into work processes (Moritz & Smaje, 2022). Machines equipped with AI can now be trained to perform non-routine cognitive tasks, and assume occupations that were traditionally filled by well-educated individuals, such as financial analysts, tax preparers or software engineers (Parker, 2018). Some forecasts suggest that a significant number of teams will be self-managed by 2027, thereby transforming traditional leadership structures regardless (Allen, Root and Schwedel, 2017). In a 2019 study 30 percent of participants believed that AI could fully replace their supervisors (Bitkom e.V., 2019).

As AI continues to rapidly integrate into workplaces, a critical question arises: how would the public perceive a profound shift of AI assuming a primary leadership role in the future?

Conversely, not everyone views the implementation of AI with the same level of enthusiasm. In addition to the concerns about job displacement, as AI systems increasingly take over tasks that involve repetitive or data-intensive work (Badhurunnisa & Dass, 2023), it can be assumed that an increased use of AI will be met with resentment (Faverio & Tyson, 2023). In addition to the existing fear of job loss (Moritz & Smaje, 2022), concerns of a more emotional nature may also arise. The objectivity of AI in decision-making may undermine trust in its role as a leader, as its highly calculative and unbiased nature could feel too robotic and disconnected from the emotional and social skills that people typically value in leadership (Pazzanese, 2020). This gap between AI's rational decision-making process and human expectations for empathy and interpersonal connection may result in the perception that AI lacks the qualities necessary as a leader. Research shows that people show aversion against AI performing subjective tasks that involve personal judgement, opinions or feelings (Castelo, Bos, & Lehmann, 2019). Furthermore, a recent study from KPMG showed that three out of five people are either ambivalent or unwilling to trust AI (KPMG, 2023²).

Current research lacks a focus on the public's perception of AI in leadership positions and the extent to which people are willing to accept it, despite its apparent superiority over human skills in certain areas. Given that AI is already the subject of critical discourse and many individuals harbor existing fears or anxieties of the consequences of its implementation (American Psychological Association, 2023), the following hypothesis is proposed:

H1: Individuals find it less desirable to have an AI system as a chief executive, compared to a human.

2.4 Trust in Leadership

Trust has become a crucial determinant in modern leadership, evolving from traditional command-and-control models to more relational approaches. Contemporary leadership, as emphasized by Balcerzyk (2020), must be rooted in trust to navigate constant change and uncertainty, fostering quicker decision-making and team energy. Padhi and Mishra (2015) argue that ethical behavior and trust are essential for leaders to achieve desired outcomes in a collaborative environment, where Jones and George (1998) emphasize the importance of attributes such as fairness, and honesty. Bligh (2017) further highlights trust as a dynamic interpersonal link vital in leader-follower relationships, where trust can buffer negative experiences and enhance cooperation. Różycka (2024), in turn, mentions that trust is foundational for effective leadership, integrating organizational culture and promoting stability. Leaders must cultivate mutual trust to inspire and motivate their teams in order to drive organizational success in a globalized context. This is particularly important in environments where trust enhances cooperation and teamwork, providing a competitive advantage (Jones & George, 1998). Research also shows that emotional intelligence is essential in leadership to coordinate teams, collaborate with others and provide feedback (Rizeanu, Momanu, & Matianu, 2022). All of these studies illustrate the crucial role of trust in leadership today.

Trust research often focuses on three key dimensions of trustworthiness: ability, benevolence, and integrity (ABI) (Mayer et al., 1995; Barki et al., 2015; Beatton, 2007). These dimensions are critical in evaluating trust in leadership, where ability refers to a leader's competence, benevolence reflects the perceived goodwill towards followers, and integrity denotes adherence to moral and ethical principles. While these factors are generally considered to explain variations in trustworthiness, their relationship to trust may be non-linear (Barki et al., 2015). The trust process typically involves a willingness to be vulnerable, and engaging in risk-taking behavior (Dietz, 2011). Emotional intelligence may influence perceptions of benevolence as more information is revealed, but it is unlikely to affect perceptions of ability or integrity (Lee & Selart, 2015). Ability has been found to be the most salient factor in developing trust intentions, potentially overshadowing benevolence in high-ability teams (Beatton, 2007).

The perception of AI trustworthiness, however, is a more complex matter that extends beyond technical features. This discussion is central to the research's focus on public perceptions of AI in leadership roles, as trust will likely be a key factor in determining whether AI is seen as a desired leader. Understanding the differences in trust between human leaders and AI leaders is crucial for developing a framework that fosters trustworthiness and addresses the diverse needs and concerns of employees in an increasingly digital world. Trust in AI involves not only reliance on the system but also trust in its developers (Duenser & Douglas, 2023). To ensure AI is both trustworthy and trusted in leadership, it is crucial to examine the underlying causes of trust and distrust among individuals in specific contexts. Research shows, that ability is the key factor influencing trust in automation (Drnec et al., 2016). However, the perceived ability of a leader does not solely rely on technical mechanisms and skills, even though they play an important part. It rather encompasses the aptitude to perform subjective tasks that require social skills (Duenser & Douglas, 2023). As AI is commonly perceived as deficient in its ability to effectively execute subjective tasks (Castelo, Bos, & Lehmann, 2019), the following hypothesis is proposed:

***H2:** Individuals perceive AI leadership as possessing less ability compared to human leadership.*

As AI continues to evolve, the role of emotional intelligence becomes even more crucial, especially in managing the ethical challenges that arise from AI's integration into various organizational contexts (Huang & Rust, 2018). Research supports that while AI can replicate many cognitive tasks, it still lacks the innate emotional understanding necessary for effective human leadership (George, 2000). Research shows, that in order for a leader to be perceived trustworthy, they need to show moral values and high ethical standards. There is a correlation between emotional intelligence and the ability to lead effectively (Rizeanu, Momanu, & Matianu, 2022). However, research also shows, that people tend to perceive AI generally as less trustworthy than a human (McGuire & De Cremer, 2023). In a 2023 study involving 17,000 participants, 61 percent reported a lack of trust in AI, citing concerns regarding its use of personal data and the potential for data breaches (Gillespie et al., 2023). Therefore, the following hypothesis is proposed:

***H3:** Individuals perceive AI leadership as having less integrity compared to human leadership.*

Dixit and Maurya (2021) argue that while AI may automate routine tasks, emotional intelligence remains a critical human skill that cannot be replicated by machines. However, the perception of goodwill is a crucial factor for the credibility of a leader (McCroskey & Teven, 1999). Research shows that individuals perceive decisions made by algorithms to be less fair and legitimate compared to decisions made by humans (McGuire & De Cremer, 2023). Furthermore, according to the KPMG Global Tech Report 2023, 55 percent of technology leaders express reservations about the use of AI, primarily due to concerns surrounding its decision-making processes and the lack of transparency in how those decisions are made. Therefore, the following hypothesis is proposed:

H4: Individuals perceive AI leadership as being less benevolent compared to human leadership.

2.5 Skills Required for Leadership

Leadership demands a sophisticated blend of technical expertise and emotional intelligence (Rizeanu, Momanu, & Matianu, 2022). The Occupational Information Network (O*NET) is a comprehensive resource for occupational information, developed and maintained by the U.S. Department of Labor. It offers detailed descriptions of various aspects of work, including the categories of required skills, abilities, work activities and educational requirements associated with each occupation. O*NET includes data on over 900 occupations. The data is collected by distributing questionnaires for each category to individuals working in the respective occupation. All data is regularly updated with the latest occupational information and labour market research (O*NET Online, n.d.). The questionnaire focuses on 35 pre-determined skills, which comprises 10 Basic Skills, and 25 Cross-Functional Skills. Basic skills have two skill groups called “content skills” and “process skills”, which again contain individual skills. Cross-functional skills consists of five skill groups: “complex problem solving skills”, “resource management skills”, “social skills”, “system skills”, and “technical skills”, which all again comprise various individual skills (35 in total). See Figure 1: Skills and skill groups from O*NET.

Basic Skills	Content skills	Active listening
		Mathematics
		Reading comprehension
		Speaking
		Writing
	Process skills	Active learning
		Critical Thinking
		Learning Strategies
Monitoring		
Cross Functional Skills	Complex problem solving	Complex problem solving
	Resource Management skills	Management of Financial Resources
		Management of Material Resources
		Management of Personnel Resources
		Time Management
	Social skills	Coordination
		Instruction
		Negotiation
		Persuasion
		Social Perceptiveness
	System Skills	Judgment and Decision Making
		Systems Analysis
		Systems Evaluation
	Technical Skills	Operations Analysis

*Figure 1: Skills and skill groups from O*NET*

The question that arises is how the public perceives AI's competence in these essential leadership skills and how this perception correlates with or influences the perceived desirability and capability of AI as a leader. The Stanford University AI Index 2024 Annual Report revealed that AI has now surpassed human capabilities in a variety of tasks, with growing expectations for its future development. Particularly in 'basic' tasks such as reading comprehension and visual reasoning, AI has outperformed humans. Additionally, in more complex tasks such as competition-level mathematics, AI's skill level has increased significantly and is now approaching the human baseline. The report also shows that people globally are increasingly aware of AI's capabilities and potential future advancements; however, many expressing feelings of nervousness about its implications (Maslej et al., 2024). This leads to the following hypotheses:

H5: People think AI is capable of assuming a leading role, but it is not desirable.

Additionally, it is important to examine whether AI is perceived as particularly strong or weak in specific skill groups. Research revealed that consumers' willingness to use algorithms is

influenced more by emotional trust, or affective trust, than by rational trust in the algorithm's effectiveness, known as cognitive trust (Castelo, Bos, & Lehmann, 2019). Therefore, it can be hypothesized that specific skill groups, such as social skills, have a greater impact on perceived capability and desirability of AI in leadership roles than others, suggesting that not all skills contribute equally to perceived capability/desirability. Therefore, the following hypothesis is proposed:

H6: Skills or skill groups related to social interactions have a greater impact on the perceived capability and desirability of AI in leadership roles than others.

An additional area of interest lies in the extent to which AI is perceived as capable of executing the skills required for a leadership position. Even more intriguing is how people would rate those skills without knowing that they are essential for a chief executive. Would individuals rate AI's abilities in these critical leadership skills highly, unaware that they relate to leading positions? Furthermore, how would people assess AI's ability to perform as a leader when asked directly? It is possible that people believe AI possesses the necessary skills to lead, yet reject the idea of an AI leader when confronted with the concept directly? Studies show that despite algorithms frequently outperforming humans, people remain reluctant to rely on them for tasks traditionally performed by humans (Castelo, Bos, & Lehmann, 2019). This leads to the following hypothesis:

H7: Although individuals believe that AI possesses all the necessary skills for a leadership role based on their survey assessments, they ultimately reject the idea that an AI system is capable of assuming a leading role.

2.6 Studies Overview

The research aims to compare the perception of AI leadership, focusing on two key aspects: 1) the level of public trust in AI leadership compared to human leadership, and 2) the perceived capability of AI to perform as a chief executive. To accomplish this, two studies were conducted.

Study 1 - Trust aims to assess the perceived trust in AI leadership in comparison to human leadership, specifically in the context of a chief executive role. The survey evaluates

participants' responses according to Mayer's (1995) three components of trust: ability, benevolence, and integrity, aiming to understand public perceptions of each component and to determine if there are significant differences in how they are perceived and how they affect perceived desirability of AI leadership.

Study 2 - Skills aims to determine the public's perception of AI's capabilities to perform as a chief executive, specifically identifying which of work-related skills that are necessary for the position are seen as within AI's abilities and which are not.

3. Study 1 - Trust

3.1 Research Objective

The primary objective of Study 1 - Trust was to explore the public's perception of trust in AI leadership when compared to human leadership, particularly in the context of a chief executive role. The study aimed to determine how trust, as defined by ability, integrity, and benevolence, impacts the desirability of AI as a chief executive relative to human leaders.

3.2 Sample

The sample size for comparing two independent means was determined using G*Power. The parameters set for the analysis included a moderate effect size of 0.5, an alpha error probability of 0.05, and a power of 0.95. This calculation indicated that 88 participants per group, or a total of 176 participants, were required.

Additionally, a Monte Carlo Power Analysis for indirect effects was conducted. The target power was set at 0.95, with a confidence level of 95 percent and 10,000 replications. Assuming a medium negative impact of AI on Ability, Integrity, and Benevolence, which was expected to reduce the overall desirability of AI in leadership roles, the analysis indicated a required sample size of 72 participants per group, or a total of 144 participants.

To ensure a robust analysis, the survey was ultimately distributed to 157 participants per group, totalling 314 participants. By employing a quantitative research approach via surveys, the study benefits from the capacity to analyse a larger and more diverse sample, leading to results that more accurately reflect global public perceptions. The sample was randomly selected to avoid perception bias across different demographic or social groups.

The sample for *Survey 1 - Trust* comprised 45% men and 53% women (2% preferred not to specify), with an age range of 18 to 65 years ($M = 30.36 / SD = 9.092$). Participants represented diverse cultural backgrounds and ethnic groups, originating from 41 different countries, from Africa, Asia, Europe, North America, and South America. 49.65% of participants had completed a bachelor's degree, while an additional 19.93% had obtained a master's degree. 97.67% of participants successfully passed the attention check in the first scenario 'AI', and 96.85% of participants successfully passed the attention check in the second scenario 'human'. Participants that failed the attention check were excluded from the analysis.

3.3 Research Design

The research model is structured as follows: the independent variable is 'CEO: AI vs Human', where 'CEO AI' is the experimental condition, and 'CEO human' serves as the control condition. The dependent variable is "Desirability". The dimensions of trust (competence, integrity, benevolence) serve as mediators between the independent variable "CEO: AI vs. Human", and the dependent variable "Desirability", resulting in a parallel mediation model.

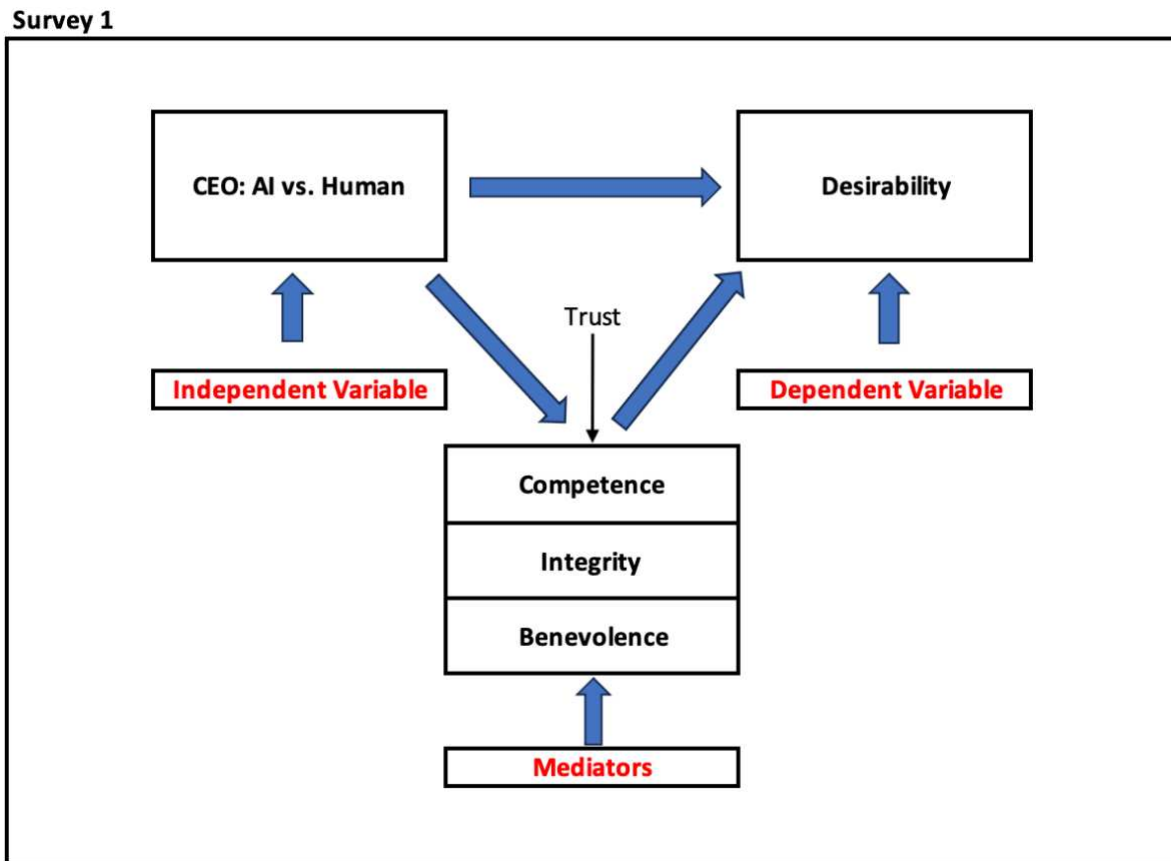


Figure 2: Research Model Survey 1-Trust

3.4 Categories of Trust

Mayer's Faith in Humanity model divides trust into three components: ability, integrity, and benevolence (Mayer, 1995). Later, he developed a measure that built on these categories, creating specific questions for each (Mayer, 1999). This measure was utilized to compare perceptions of AI leaders versus human leaders, with questions adjusted to align with the study's objectives. *See Appendix 1 for the original questionnaire.*

3.5 Procedure

The survey was distributed online, which allows anonymity and neutrality, since the respondents answer the questions independently and are thus less likely to be influenced by other persons. Furthermore, care was taken to assure that the surveys only took around 5 minutes, in order not to exhaust the concentration phase of participants which could lead to misleading results and early termination. The questions in the surveys were randomized to avoid influence of question order. Additionally, control questions were included to ensure that participants responded attentively, thereby improving the quality of the survey data. *See Appendix 3 for the survey.*

First, participants were asked to self-assess their level of knowledge about AI. This variable was used as a covariate in the analysis of perceived trust and desirability.

Participants were randomly assigned to one of two conditions: either the survey questions were framed from the perspective of an AI chief executive or a human Chief Executive, with the questions themselves remaining identical.

Scenario 1: Imagine you've been presented with an intriguing job offer from a progressive company. The job offer presents you with the opportunity to work within a department led by an AI system as a chief executive officer.

Scenario 2: Imagine you've been presented with an intriguing job offer from a progressive company. The job offer presents you with the opportunity to work within a department led by a chief executive officer.

The survey questions consist of two main groups: "desirability" and "trust." The order of both groups was randomized to avoid order bias. The "trust" group consists of three subgroups, each including five or six questions for each of the components of trust: ability, integrity, and

benevolence. The subgroups were also randomized. Participants rated their agreement with the statements on a 5-point Likert scale from 'strongly disagree' to 'strongly agree' (as in Mayer's, (1999), original survey).

The second main group included a separate question assessing the perceived desirability of an AI or human chief executive, depending on the participant's group allocation, using a 7-point Likert scale ranging from 'strongly undesirable' to 'strongly desirable'.

3.6 Data Preparation and Scale Reliability

Participants that have failed the attention check or did not finish the survey were taken out of the dataset. The text scales from the survey were converted into numeric variables for analysis. The six questions related to ability, the five questions related to integrity, and the five questions related to benevolence were assessed by calculating Cronbach's α to evaluate internal consistency. Following this reliability assessment, the survey responses were aggregated to form combined variables representing each respective category (Ability_combined, Integrity_combined, Benevolence_combined). This process was conducted separately for both the 'AI' and the 'Human' groups, allowing for comparisons between these groups. Furthermore a 'Group' variable was created where 1 = AI and 2 = human.

3.7 Results of Study 1 - Trust

3.7.1 Scale Assessment

The Cronbach's Alpha values for the variables used in this study are as follows: Ability AI $\alpha = .91$, Ability Human $\alpha = .90$, Benevolence AI $\alpha = .82$, Benevolence Human $\alpha = .85$, Integrity AI $\alpha = .78$, and Integrity Human $\alpha = .84$. These values indicate that the survey items reliably measure the constructs of ability, benevolence, and integrity across both AI and human scenarios.

3.7.2 Hypothesis Testing

	Group	N	Mean	Std. Deviation	Std. Error Mean
Desirability_Combined	1	142	3.2324	1.80097	.15113
	2	137	5.3577	1.21108	.10347

Table 1: Independent sample t-test between AI and Human and Desirability

To test **H1**, that individuals find it less desirable to have an AI system as a chief executive, compared to a human, a two-sample t-test was conducted to compare the perceived desirability of ‘AI’ versus ‘Human’ leader. Levene’s test for equality of variances indicated that the variances were significantly different ($F = 30.799, p < .001$), so results are reported for both equal and unequal variance conditions. For AI leaders ($N = 142$), the mean desirability score was 3.2324 ($SD = 1.80097$). For Human leaders ($N = 137$), the mean score was 5.3577 ($SD = 1.21108$). The t-test for independent samples showed a significant difference in means, with a t-value of -11.525 ($df = 277$) and a two-tailed p-value of $< .001$. The mean difference was -2.12527, with a 95% confidence interval ranging from -2.48829 to -1.76225. Effect size calculations confirmed the large magnitude of this difference. Cohen’s d was 1.53985, Hedges’ g was 1.54404, and Glass’s delta was 1.21108, suggesting that the difference in desirability between AI and human leaders is not just statistically significant but also practically meaningful.

	Group	N	Mean	Std. Deviation	Std. Error Mean
Ability_combined	1	132	4.6995	1.33324	.11604
	2	130	5.5385	.90447	.07933

Table 2: Descriptive results of independent sample t-test between ‘AI’ and ‘Human’ in ‘Ability’

To test **H2**, that individuals perceive AI leadership as possessing less ability compared to human leadership, an independent sample t-test was conducted to compare the perceived ability between AI and human leaders. The analysis revealed a significant difference between the two

groups. Levene's test for equality of variances indicated that the assumption of equal variances was not met ($p < .001$). Consequently, results are reported for both equal and unequal variance conditions. For the group with AI leaders ($N = 132$), the mean perceived ability score was 4.6995 ($SD = 1.33324$). For the group with Human leaders ($N = 130$), the mean score was 5.5385 ($SD = 0.90447$). The t-test for independent samples showed a significant difference in means, with a t-value of -5.952 ($df = 260$) and a two-tailed p-value of $< .001$. The mean difference was -0.83897, with a 95% confidence interval ranging from -1.11655 to -0.56139. Effect size calculations further confirmed the substantial nature of this difference. Cohen's d was 1.14083, Hedges' g was 1.14413, and Glass's delta was 0.90447, indicating a large effect size and reinforcing the practical significance of the observed differences.

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Integrity_combined	1	142	4.2394	1.17425	.09854
	2	137	4.8365	1.02073	.08721

Table 3: Descriptive results of independent sample t-test between 'AI' and 'Human' in 'Integrity'

To test **H3**, that individuals perceive AI leadership as having less integrity compared to human leadership, an independent sample t-test was conducted to compare integrity scores between AI and Human leaders. The analysis showed that AI leaders ($N = 142$) had a mean integrity score of 4.2394 ($SD = 1.17425$), while human leaders ($N = 137$) had a significantly higher mean score of 4.8365 ($SD = 1.02073$). Levene's Test for Equality of Variances indicated that the assumption of equal variances was met ($F = 1.640, p = .201$). The t-test results confirmed a significant difference between the groups ($t = -4.526, p < .001$). Effect size calculations revealed a large effect, with Cohen's d at 1.102, Hedges' g at 1.105, and Glass's delta at 1.021. These results indicate that Human leaders are perceived as significantly more integral than AI leaders.

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Benevolence_combined	1	142	3.2831	1.25845	.10561
	2	137	4.1693	1.12639	.09623

Table 4: Descriptive results of independent sample t-test between 'AI' and 'Human' in 'Benevolence'

To test **H4**, that individuals perceive AI leadership as less benevolent than human leadership, an independent sample t-test was conducted to compare benevolence scores between AI and Human leaders. The analysis showed that AI leaders ($N = 142$) had a mean benevolence score of 3.2831 ($SD = 1.25845$), while human leaders ($N = 137$) had a significantly higher mean score of 4.1693 ($SD = 1.12639$). Levene's Test for Equality of Variances indicated that the assumption of equal variances was not violated ($F = 3.333$, $p = .069$). The t-test results confirmed a significant difference between the groups ($t = -6.191$, $p < .001$). Effect size calculations revealed a large effect, with Cohen's d at 1.195, Hedges' g at 1.199, and Glass's δ at 1.126.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.661 ^a	.437	.430	1.40256

a. Predictors: (Constant), Integrity_combined, Benevolence_combined, Ability_combined

Table 5: Descriptive results of the linear multiple regression for RQ3

To evaluate RQ3, if one of the three dimensions of trust (ability, integrity, and benevolence) has a more significant impact on the perceived desirability of AI in leadership roles, a multiple regression analysis was performed where results of both groups (AI/human) were combined. 'Desirability' was set as the dependent variable and 'Integrity_combined', 'Benevolence_combined', and 'Ability_combined' as predictors. The regression model accounted for 43.7% of the variance in desirability scores ($R^2 = 0.437$, Adjusted $R^2 = 0.430$), indicating a substantial explanatory power. The overall model was highly significant ($F(3, 258) = 66.685$, $p < .001$). Among the predictors, 'Ability_combined' ($\beta = 0.343$, $p < .001$) and

`Benevolence_combined` ($\beta = 0.302, p < .001$) were significant contributors to the desirability of AI leadership, with positive effects. `Integrity_combined` ($\beta = 0.127, p = 0.063$) did not achieve significance.

The analysis was also run for both groups individually. The results showed that for group 1 (AI) the model was statistically significant, explaining approximately 38.1% of the variance in desirability ($R^2 = 0.381$), indicating that all three trust components are strong predictors of the desirability of AI in leadership roles. All three components were significant with 'Benevolence' ($\beta = 0.294, p < .001$), 'Ability' ($\beta = 0.244, p = .005$), and 'Integrity' ($\beta = 0.220, p = .019$). In group 2 (human) only 'Ability' ($\beta = 0.403, p < .001$) had a significant influence on 'Desirability'.

In order to test for a possible mediation, a mediation analysis was conducted using Model 4 in the PROCESS macro. The independent variable (Group: AI or Human), with ability, benevolence, and integrity as mediators, and desirability (Des_com) as the dependent variable. The results indicated a significant direct effect of the group on desirability, with AI being significantly less desirable compared to human leadership ($B = 1.34, p < .001$). All three mediators (ability, benevolence, and integrity) showed significant indirect effects on desirability, with ability ($B = 0.31, p < .001$) having the strongest effect, followed by benevolence ($B = 0.26, p < .001$), and integrity ($B = 0.14, p = .0138$). The overall mediation model explained 54.57% of the variance in desirability ($R^2 = 0.5457$). The covariate (AI understanding) was not significant in the final model ($p = .5105$).

4. Study 2 - Skills

4.1 Research Objective

The objective of 'Study 2 - Skills' was to evaluate perceptions of AI's proficiency across the most important 23 skills essential for a chief executive, and to determine how participants assess the overall capability and desirability of AI in a chief executive leadership role.

4.2 Research Model

The skill groups (content skills, process skills, complex problem-solving, resource management, social skills, systems skills, technical skills) are proposed to mediate the

relationship between the independent variable "AI's skills" and the dependent variables "capability" and "desirability".

Survey 2

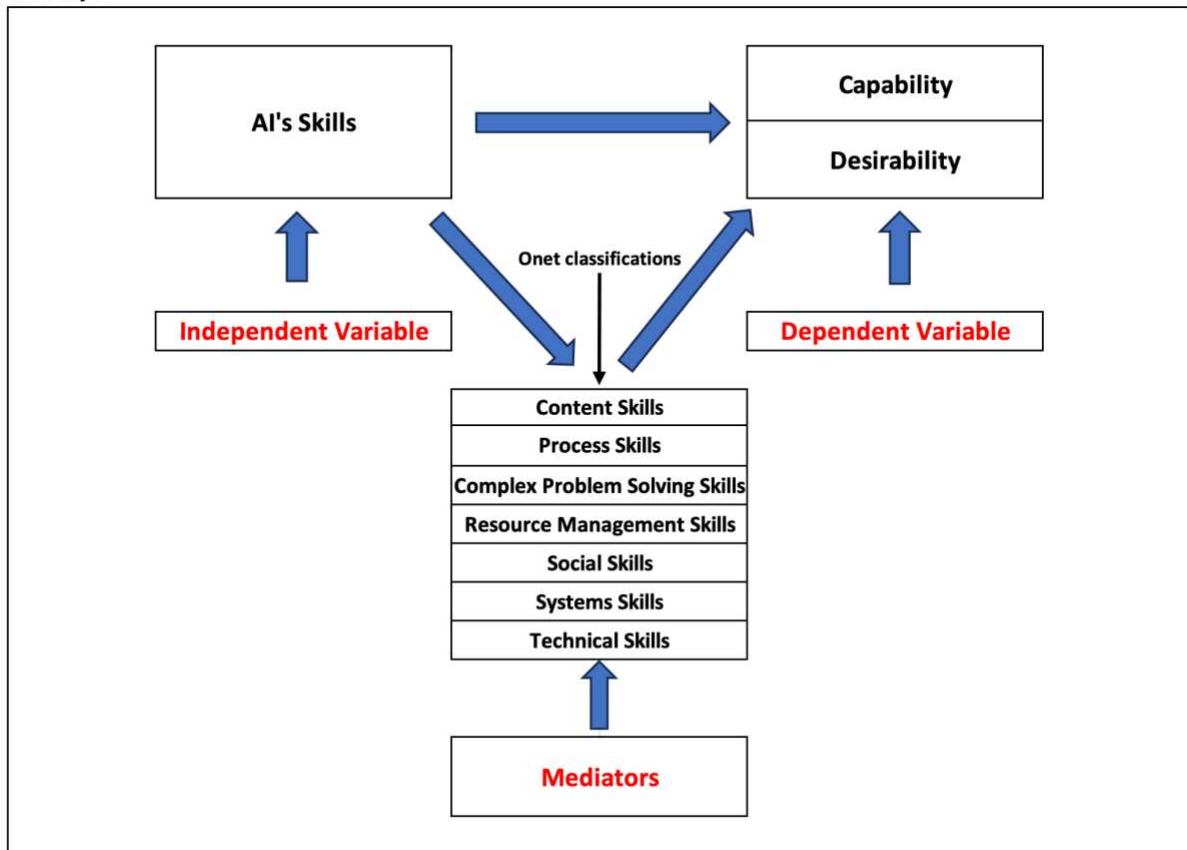


Figure 3: Research Model for Survey 2 – Skills

4.3 Sample

The sample size was determined by using G*Power for two independent groups. The effect size was set as 0.5 (moderate effect), α err prob was set to 0.05, Power $1-\beta$ was set to 0.95. The result was 88 participants per group or 176 in total. To ensure a robust analysis, the survey was ultimately distributed to 207 respondents. The sample was randomly selected to avoid perception bias across different demographic or social groups. Given the adoption of a quantitative research approach the study analyses a comprehensive sample with participants from diverse cultural backgrounds and ethnic groups, originating from 38 different countries from Africa, Asia, Australia, Europe, North America, and South America. The sample for *Survey 2 - Skills* comprised 50% men and 49% women (1% preferred not to specify), with an age range of 18 to 64 years ($M=29.39/ SD=8.33$). 45% of participants had earned a bachelor's degree, while another 21% had obtained a master's degree. 94.1% of participants successfully

passed the attention check. Participants that failed the attention check were excluded from the analysis.

4.4 O*NET Questionnaire

In order to collect the data that O*NET issues, questionnaires are distributed to employees working in the occupation to be evaluated. In the original questionnaires of O*NET, the level of the skill for each job is evaluated on a 7-point Likert scale, whereas 1 is the lowest skill level needed, and 7 is the highest. The responses are later converted from the 7-point Likert scale to a 0-100 points scale. Skills that receive a value greater than 50 are considered an important skill to perform the job. For the occupation of 'chief executives,' 23 skills have values exceeding 50, while all other skills fall significantly short of this threshold, with values ranging between 0-25 points. Therefore, the 23 relevant skills (with values from 53-94) were selected for the survey (see Appendix 2 for the skills listed with explanations). Participants were asked to rate the level of AI proficiency in various skills, without being informed that these skills were specifically related to the role of a chief executive.

4.5 Procedure

The survey was distributed online, which allows anonymity, and neutrality, since the respondents answer the questions independently and are thus less likely to be influenced by other persons in the immediate vicinity. Furthermore, care was taken to assure that the surveys only took around 5 minutes or less, in order not to exhaust the concentration phase of participants which could lead to misleading results and early termination. The questions in the surveys were randomized to avoid influence of question order. Additionally, a control question was included to ensure that participants responded attentively.

First, participants were asked to self-assess their level of knowledge about AI. This variable was used as a covariate in the analysis of perceived trust and desirability. Subsequently the survey questioned participants about their evaluation of AI's skill level in the 23 skills that are required as of O*NET for the occupation of a chief executive and of their perception of AI's capability and desirability to perform as one.

4.6 Data Preparation and Scale Reliability

The survey's text-based response scales were transformed into numeric variables for analysis. (1 = Extremely low, 2 = Moderately low, 3 = Slightly low, 4 = Neither low nor high, 5 = Slightly high, 6 = Moderately high, and 7 = Extremely high.) Furthermore, all variables belonging to the two general skill groups ('Basic Skills' and 'Cross Functional Skills') were combined and tested for their reliability. The same was done for the skill sub-groups that consists of more than one variable ('content skills,' 'process skills,' 'resource management skills,' 'social skills,' and 'system skills'), to facilitate further analysis of correlations between these skill groups and perceived capability and desirability. Additionally, another variable with the mean of all skills was created (Mean_all_skills).

4.7 Results of Study 2 - Skills

4.7.1 Scale Assessment

The variables were grouped into their respective skill categories according to the O*NET classification. The combined variables for 'Basic Skills' demonstrated a Cronbach's $\alpha = .92$, while the 'Cross-functional Skills' category achieved a Cronbach's $\alpha = .93$, indicating excellent internal consistency within each category. The sub-groups showed high Cronbach α as well with 'Content Skills' having a combined Cronbach's $\alpha = .87$, 'Process Skills' a Cronbach's $\alpha = .87$, 'Resource Management Skills' a Cronbach's $\alpha = .85$, 'Social Skills' a Cronbach's $\alpha = .80$, and 'System Skills' a Cronbach's $\alpha = .85$. These values indicate strong reliability within each skill group, supporting their use as composite variables in further analysis.

4.7.2 Hypothesis Testing

		Paired Samples Statistics			
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Capability_num	3.78	184	1.649	.122
	Desirability_num	3.0435	184	1.63909	.12084

Table 6: Descriptive results of the paired sample t-test between perceived capability and desirability

To test **H5**, if individuals perceive AI as capable- but not desirable to assume a leading role, a paired-samples t-test was conducted to examine the difference between perceived capability and desirability scores. The results indicated that the mean desirability score ($M = 3.0435$, $SD = 1.63909$) was significantly lower than the mean capability score ($M = 3.7800$, $SD = 1.64900$). This difference was statistically significant ($t(183) = -6.732$, $p < .001$), with a mean difference of -0.7337 , and a 95% confidence interval ranging from -0.9487 to -0.5187 .

Correlation analysis revealed a moderate, positive relationship between perceived capability and desirability ($r = 0.596$, $p < .001$). Despite this significant correlation, the effect size, as measured by Cohen's d (1.478) and Hedges' g (1.484), indicates a large effect, suggesting a substantial discrepancy between the two scores. These results suggest that while perceived capability and desirability are related, the perceived capability of AI leadership is notably higher than its desirability, supporting the hypothesis that AI is seen as capable but not as desirable in leadership roles.

To test **H6**, if skills or skill groups related to social interactions have a greater impact on the perceived capability and desirability of AI in leadership roles than others, a multiple linear regression was conducted to assess the impact of the different skill groups on the perceived capability of AI in leadership roles. The model was statistically significant, explaining 9.3% of the variance in perceived capability ($R^2 = 0.093$, $p = .015$). Among the skill groups, only social skills emerged as a significant predictor of perceived capability ($\beta = 0.269$, $p = .022$). This result indicates that participants consider social skills to be the most critical factor when evaluating AI's leadership capability. All other skill groups, such as content skills, process skills, and complex problem-solving abilities, did not significantly influence perceived capability.

Model Summary

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.305 ^a	.093	.057	1.604

Table 7: Descriptive results of the multiple linear regression of skill groups and perceived capability (Predictors: (Constant), OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills)

Additionally, a multiple linear regression analysis was applied to determine which skill groups most significantly impact the perceived desirability of AI in a leadership role. The model explained approximately 10.8% of the variance in desirability ($R^2 = 0.108$, $p = .005$). Among the predictors, social skills had a significant positive impact on desirability ($\beta = 0.355$, $p = .002$), indicating that enhancing AI's social skills may be key to improving its perceived desirability in leadership roles. Other variables did not significantly contribute to the model.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.328 ^a	.108	.072	1.57696

Table 8: Descriptive results of the multiple linear regression of skill groups and desirability (Predictors: (Constant), OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills)

To find out which social skills have the greatest effect on desirability another multiple regression analysis was conducted only using social skills. accounts for approximately 13.7% of the variance in the desirability of AI in a leadership role ($R^2 = 0.137$). The overall model was statistically significant ($F = 5.585$, $p < .001$). Negotiation had the most significant positive impact on desirability ($\beta = 0.304$, $p = .002$). Social perceptiveness also showed a significant positive impact on desirability ($\beta = 0.240$, $p = .006$).

The same was done for perceived capability. The regression analysis revealed that the model, which again only includes the social skills variables explains approximately 9.6% of the variance in perceived capability of AI in a leadership role, with an overall significant impact ($F = 3.747$, $p = .003$). Among the predictors, social perceptiveness emerged as the only significant variable ($B = 0.235$, $p = .005$), even though negotiation approached significance ($p = .064$).

Correlations

		MEAN_all_skills	Capability_num
MEAN_all_skills	Pearson Correlation	1	.179*
	Sig. (2-tailed)		.015
	N	185	184
Capability_num	Pearson Correlation	.179*	1
	Sig. (2-tailed)	.015	
	N	184	184

Table 9: Descriptive results of the correlation between all skills and capability

To test **H7**, that although individuals believe that AI possesses all the necessary skills for a leadership role based on their survey assessments, they ultimately reject the notion that an AI system can effectively fulfil such a position when asked directly, which would indicate a bias, a correlation analysis was conducted. The correlation results indicate a weak but statistically significant positive relationship between the ‘MEAN_all_skills’ and ‘Capability’ variables ($r = 0.179$, $p = .015$). This suggests that as participants’ evaluations of AI’s skills increase, their perceived capability of AI as a leader slightly increases, but the effect is not strong.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	MEAN_all_skills	4.3002	184	1.25422	.09246
	Capability_num	3.78	184	1.649	.122

Table 10: Descriptive results of the paired sample t-test results of the mean of all skills and capability

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	MEAN_all_skills & Capability_num	184	.179	.008	.015

Table 11: Descriptive results of the paired sample correlation of the mean of all skills and capability

The results of the study indicate a significant difference between participants' evaluations of AI's capabilities in leadership skills and their overall acceptance of AI as a competent leader. On average, participants rated AI's proficiency in the 23 leadership-related skills more favourably ($M = 4.30$, $SD = 1.25$) than its perceived capability to effectively fulfil a leadership role ($M = 3.78$, $SD = 1.65$). A paired-samples t-test revealed that this difference is statistically significant, $t(183) = 3.763$, $p < .001$, with a small effect size (Cohen's $d = 0.277$). Although the correlation between participants' assessments of AI's skills and their perceived capability of AI as a leader is significant ($r = 0.179$, $p = .015$), it remains weak.

The mediation analysis was performed using Model 4 in the PROCESS macro, with the mean of all individual skills (M_skills) as the independent variable (IV), six mediators (Content skills (Content), RMGT, Social Skills (Social), Complex Problem Solving (CoPrSo), Operational Analysis (Operati), and System Skills (System), and Capability (Cap_num) as the dependent variable (DV), ($N = 183$). None of the mediators showed a significant effect on either desirability, nor capability, indicating a shared effect of the mediators.

5. Discussion

5.1. Results Summary

5.1.1. Study 1 - Trust

The results of Study 1 clearly indicate significant differences in perceived competence, integrity, and benevolence and a strong preference for human leaders over AI leaders. The average desirability score for human leaders was substantially greater than that for AI leaders, which supported **H1**. This aligns with the literature that shows a general aversion, unwillingness to trust and nervousity towards AI (KPMG, 2023; Castelo, Bos, & Lehmann, 2019)

In addition **H2** was supported, with findings that collectively suggest that participants perceive Human leaders as possessing more ability (trust factor) than AI leaders. This is consistent with the literature indicating AI being perceived as having less ability (Castelo, Bos, & Lehmann, 2019), which is the most important factor for trust (Beatton, 2007).

Moreover, **H3** was supported with a modest but noticeable gap in perceived integrity between the two groups, in favor of human leadership. The findings also revealed higher perceived benevolence in human leadership, while AI recorded the lowest scores in this trust category, supporting **H4**. This reflects the same result that has been shown in existing studies, that AI is perceived as having limited capability to perform subjective tasks that involve social skills (Castelo et al., 2019).

RQ3 questioned if one of the three dimensions of trust would significantly affect perceived desirability of AI in leadership roles. The results differed depending on which group was measured. In the AI scenario (Group 1), all three categories were found to significantly influence perceived desirability. In the Human scenario (Group 2), only ability was a significant factor. This suggests that participants in Group 1, when considering an AI system in a leadership position, placed greater concerns on integrity and benevolence compared to participants in Group 2, who were evaluating a human leader.

The mediation analysis showed that **ability**, **integrity**, and **benevolence** all significantly mediate the relationship between the leader type (AI vs. Human) and perceived **desirability** of the leader. The direct effect of the leader type remains significant, indicating that AI leaders are generally perceived as less desirable than human leaders. When accounting for trust factors, the indirect effects of ability, integrity, and benevolence underscore that these elements play a significant role in shaping perceptions of desirability, increasing the gap of preference between human and AI leadership. The strongest mediator is **ability**, followed by **benevolence** and then **integrity**, indicating that participants place the most weight on ability when considering the desirability of a leader, but benevolence and integrity are also important factors.

5.1.2 Study 2 - Skills

The results of *Study 2 - Skills* provided valuable insights into how participants perceive the proficiency of AI across the 23 essential skills required for a chief executive as of O*NET, and how these perceptions influence their assessment of AI's overall capability and desirability in a leadership role. The results supported **H5**, showing that perceived capability indeed was rated higher than perceived desirability. This indicates that even though AI is, at least partly, seen as capable, it does not directly translate into desirability. The same results can be found in the literature, that shows that people are globally well aware of AI's capabilities (Maslej et al.,

2024), but do have an aversion about AI taking over tasks done by humans, especially when social factors are involved (Castelo, Bos, & Lehmann, 2019).

H6 hypothesised that skills or skill groups related to social interactions have a greater impact on the perceived capability and desirability of AI in leadership roles than others. The study supported **H6** and revealed that only the social skills group had a significant impact on both, perceived desirability and capability. Within the social skill group, **Negotiation** had the most significant positive impact on desirability, followed by **Social Perceptiveness**. For perceived capability **Social Perceptiveness** emerged as the only significant variable, with **Negotiation** approaching statistical significance. The emphasis on negotiation skills indicates that people regard the ability to manage conflicts, influence outcomes, and bring others together to reconcile differences as crucial qualities of effective leadership. Strong negotiation skills are often linked to sound decision-making and the ability to navigate complex interpersonal dynamics. Additionally, social perceptiveness understanding others' emotions, intentions, and viewpoints—is vital for leadership. If AI is perceived as possessing strong social perceptiveness, it may be viewed as more capable of managing interpersonal relationships, making socially informed decisions, and leading teams effectively (O*NET). This is also supported by the literature, which highlights a general emphasis on emotional trust over rational trust in AI (Castelo, Bos, & Lehmann, 2019).

H7 hypothesized that although individuals believe that AI possesses all the necessary skills for a leadership role based on their survey assessments, they ultimately reject the concept that an AI system can effectively fulfil such a position when asked directly, indicating a bias. The results supported **H7**. While participants rated AI's proficiency across the required skill groups relatively high, they rated its overall capability to perform as a leader much lower. This indicates that a positive evaluation of AI's skills does not strongly translate into confidence in AI as a leader, which suggests that skill alone may not be the only factor that contributes to perceived capability. This aligns with existing literature, which demonstrates that being accepted as a leader requires more than just possessing the required skills (Duenser & Douglas, 2023).

The mediators failed to achieve statistical significance in the second study when tested together, but **social skills** did when tested separately. The lack of significance in the mediators may be attributed to their potential measurement of similar or overlapping constructs. The significance

observed for **social** skills when tested independently suggests that multicollinearity or redundancy between the mediators may have contributed to this outcome.

5.2 Implications for AI in Leadership Positions

The findings from this study have significant implications for the future of AI in leadership roles and its implementation. Despite the rapid advancements in AI technology, public perception still favors human leadership, especially in areas that require trust and social skills, which are substantial for leadership (Rizeanu, Momanu, & Matianu, 2022). While AI is recognized for its proficiency in a wide range of leadership-related skills, there is a clear reluctance to accept AI as a leader due to concerns about its social skills, and trust. The weak correlation between skill assessments and perceived desirability suggests that simply improving AI's technical skills will not be sufficient to change public perception. The current study underscores the importance of trust and social skills in leadership. While AI holds significant potential for transforming leadership practices, organizations considering the implementation of AI should address these concerns. To improve the acceptability, AI could be partly implemented into leadership, supporting human leaders rather than replacing them entirely. Such models could leverage AI's strengths, while its weaknesses are being compensated by humans (Metcalf, Askay, & Rosenberg, 2019).

5.4 Limitations

Limitations of the study can be found in the sample. Although the sample was randomly selected and includes diverse demographics, it is primarily composed of individuals with higher educational backgrounds and an average age of 30 years ($SD \approx 8.5$ years). Additionally, the study relied on self-reported data, which can be subject to bias, and self-assessment inaccuracies. The models used in the surveys focused on trust and the necessary skill sets for leadership roles, directly correlating these factors with desirability. However, it should be mentioned that desirability of AI in leadership roles can also be influenced by other factors, and this study only provides insights into these specific areas. Finally, the rapidly evolving nature of AI technology means that public perceptions may change as AI systems continue to improve.

5.5 Future Research

This study reveals the current lack of acceptance of AI as a leadership figure, and provides valuable insights for businesses seeking to integrate AI into executive roles. Addressing the concerns towards social skills highlighted in this study such as trust, negotiation and social perceptiveness could be a crucial step toward increasing its acceptance. Future research should continue to explore how specific advancements in social skills can increase acceptance and possibly lead to greater trust and desirability of AI in leadership roles.

6. Conclusion

The rapid advancements in AI, particularly in the realm of Generative AI, have opened new frontiers in business and possible leadership applications in the future. However, as this study reveals, public perceptions of AI in leadership roles remain marked by scepticism and significant preference for human leadership. In comparing trust dimensions (ability, integrity, and benevolence) and evaluating the perceived skill levels that are required for executive roles, the findings indicate that even though AI is evaluated positively in terms of specific leadership-related skills, it is not trusted in terms of ability, integrity and benevolence, as well as in social skills such as negotiation and social perceptiveness compared to human leaders. Whereas the trust factor 'ability' significantly influences how **trustworthy** an AI system is perceived, a high skill level alone does not lead to increased **desirability**. A decrease in perceived ability does lead to a significant decrease in trust, whereas an increase in perceived skill level does not lead to an increase in desirability. This lack of trust translates into lower overall desirability and underscore the public's reluctance to embrace AI as a primary decision-maker. For AI to be accepted in leadership roles, it must significantly enhance its ability to convincingly replicate social skills in the future.

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Appendix

Appendix 1: Original survey framework of trust by Mayer (1999)

Ability:

1. The [...] is very capable of performing its job.
2. The [...] is known to be successful at the things it tries to do.
3. The [...] has much knowledge about the work that needs to be done.
4. I feel very confident about the [...] skills.
5. The [...] has specialized capabilities that can increase our performance.
6. The [...] is well qualified.

Integrity:

1. The [...] has a strong sense of justice.
2. I never have to wonder whether the [...] will stick to its word.
3. The [...] tries hard to be fair in dealings with others.
4. The [...] action and behavior are very consistent.
5. Sound principles seem to guide the [...] decisions.

Benevolence:

1. The [...] is very concerned about my welfare.
2. My needs and desires are very important to the [...].
3. The [...] would not knowingly do anything to hurt me.
4. The [...] really looks out to what is important to me.
5. The [...] will go out of its way to help me.

Appendix 2: List of all Skills with explanations

1. Basic Skills

1.1 Content Skills:

Active Listening: Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Mathematics: Using mathematics to solve problems.

Reading Comprehension: Understanding written sentences and paragraphs in work-related documents.

Speaking: Talking to others to convey information effectively.

Writing: Communicating effectively in writing as appropriate for the needs of the audience.

1.2 Process Skills:

Active Learning: Understanding the implications of new information for both current and future problem-solving and decision-making.

Critical Thinking: Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Learning Strategies: Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

Monitoring: Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

2. Cross Functional Skills

2.1 Complex Problem Solving

Complex Problem Solving: Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

2.2 Resource Management Skills

Management of Financial Resources: Determining how money will be spent to get the work done, and accounting for these expenditures.

Management of Material Resources: Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.

Management of Personnel Resources: Motivating, developing, and directing people as they work, identifying the best people for the job.

Time Management: Managing one's own time and the time of others.

2.3 Social Skills

Coordination: Adjusting actions in relation to others' actions.

Instructing: Teaching others how to do something.

Negotiation: Bringing others together and trying to reconcile differences.

Persuasion: Persuading others to change their minds or behavior.

Social Perceptiveness: Being aware of others' reactions and understanding why they react as they do.

2.4 System Skills

Judgment and Decision Making: Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Systems Analysis: Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Systems Evaluation: Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

2.4 Technical Skills

Operations Analysis: Analysing needs and product requirements to create a design.

Appendix 3: Survey 1 – Trust

Start of Block: Introduction

WELCOME and thank you for participating in this survey. This survey is part of my Master Thesis at Católica Lisbon School of Business and Economics, under the supervision of Prof Filipa de Almeida. This survey should take about 4 minutes of your time. Your responses are anonymous and voluntary.

There are no right or wrong answers. Just answer the questions based on your perception.

(There are no expected side effects of participating in this study beyond those associated with

looking at a computer screen for circa 5 minutes. You may drop out at any point of the study during its completion. If at any time you have questions about this study, you can find the authors email address at the end of each question.)

Thank you for participating!

End of Block: Introduction

Start of Block: Understanding of AI

Let's start with a quick general question.

How would you rate your overall understanding of Artificial Intelligence (AI)*?

*AI is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments.

Extremely bad Moderately bad Slightly bad Neither good nor bad Slightly good Moderately good Extremely good

End of Block: Understanding of AI

Start of Block: Scenario Human/AI (Condition)

If Condition = Human:

Imagine you've been presented with an intriguing job offer from a progressive company. The job offer presents you with the opportunity to work within a department led by a chief executive officer.

*A chief executive officer is the highest-ranking official in an organization in any department, responsible for making major business decisions and overseeing overall operations, including all the employees.

If Condition = AI:

Imagine you've been presented with an intriguing job offer from a progressive company. The job offer presents you with the opportunity to work within a department led by an AI system as a chief executive officer.

*A chief executive officer is the highest-ranking official in an organization in any department, responsible for making major business decisions and overseeing overall operations, including all the employees.

End of Block: Scenario Human/AI (Condition)

Start of Block: Ability

(Questions are shown from the *If Condition = AI*)

For each statement, indicate what best describes how much you agree or disagree in the scenario of having an AI system as a chief executive.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The AI system is very capable of performing its job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system is known to be successful at the things it tries to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system has much knowledge about the work that needs to be done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel very confident about the AI system's skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system has specialized capabilities that can increase our performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system is well qualified.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Ability

Start of Block: Benevolence

(Questions are shown from the *If Condition = AI*)

For each statement, indicate what best describes how much you agree or disagree in the scenario of having an AI system as a chief executive.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The AI system is very concerned about my welfare.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My needs and desires are very important to the AI system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system would not knowingly do anything to hurt me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system really looks out to what is important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system will go out of its way to help me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Benevolence

Start of Block: Integrity

(Questions are shown from the *If Condition = AI*)

For each statement, indicate what best describes how much you agree or disagree in the scenario of having an AI system as a chief executive.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The AI system has a strong sense of justice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I never have to wonder whether the AI system will stick to its word.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system tries hard to be fair in dealings with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AI system's action and behavior are very consistent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select Agree so I can see that you are paying attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sound principles seem to guide the AI system's decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Integrity

Start of Block: Desirability

(Question is shown from the *If Condition = AI*)

In your opinion, how desirable is it to have an AI system in a leading role?

- Strongly Undesirable Undesirable Somewhat Undesirable Neither Desirable nor Undesirable Somewhat Desirable Desirable Strongly Desirable

End of Block: Desirability

Start of Block: Demographics

What is your age?

What is your gender?

- Male
 Female
 Prefer not to say

List of Countries

Where are you from?

What is the highest level of education you have completed?

- No formal education
 High school diploma
 Apprenticeship
 Bachelor's degree
 Master's degree
 Doctorate, PhD
 Other

End of Block: Demographics

Appendix 4: Survey 2 – Skills

Start of Block: Introduction

WELCOME and thank you for participating in this survey on your perception of Artificial Intelligence (AI). This survey is part of my Master Thesis at Católica Lisbon School of Business and Economics, under the supervision of Prof Filipa de Almeida. This survey should take about 5 minutes of your time. Your responses are anonymous and voluntary. There are no right or wrong answers. Just answer the questions based on your perception.

(There are no expected side effects of participating in this study beyond those associated with looking at a computer screen for circa 5 minutes. You may drop out at any point of the study during its completion. If at any time you have questions about this study, you can find the authors email address at the end of each question.)

Thank you for participating!

End of Block: Introduction

Start of Block: Understanding of AI

Let's start with a quick general question.

How would you rate your overall understanding of Artificial Intelligence (AI)*?

*AI is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments.

Extremely bad Moderately bad Slightly bad Neither good nor bad Slightly good Moderately good Extremely good

End of Block: Understanding of AI

Start of Block: Skill Assessment 1

These questions are about work-related skills. A skill is the ability to perform a task well.

It is usually developed over time through training or experience. A skill can be used to do work in many jobs or it can be used in learning.

You will be presented with a series of skills and asked to rank AI's capability in each skill, as per your perception, on a scale.

In your opinion, what is the skill level of AI in the following categories?

	Extremely low	Moderately low	Slightly low	Neither low nor high	Slightly high	Moderately high	Extremely high
Reading Comprehension: Understanding written sentences and paragraphs in work-related documents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Active Listening: Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing: Communicating effectively in writing as appropriate for the needs of the audience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking: Talking to others to convey information effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mathematics: Using mathematics to solve problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical Thinking: Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Active Learning: Understanding the implications of new information for both current and future problem-solving and decision-making.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning Strategies: Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitoring: Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Perceptiveness: Being aware of others' reactions and understanding why they react as they do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination: Adjusting actions in relation to others' actions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Persuasion: Persuading others to change their minds or behavior.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Skill Assessment 1

Start of Block: Skill Assessment 2

Almost done!

In your opinion, what is the skill level of AI in the following categories?

	Extremely low	Moderately low	Slightly low	Neither low nor high	Slightly high	Moderately high	Extremely high
Negotiation: Bringing others together and trying to reconcile differences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructing: Teaching others how to do something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complex Problem Solving: Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operations Analysis: Analyzing needs and product requirements to create a design.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Systems Analysis: Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Systems Evaluation: Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please select moderately low for this question so I know you are paying attention.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Judgment and Decision Making: Considering the relative costs and benefits of potential actions to choose the most appropriate one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time Management: Managing one's own time and the time of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Management of Financial Resources: Determining how money will be spent to get the work done, and accounting for these expenditures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Management of Material Resources: Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Management of Personnel Resources: Motivating, developing, and directing people as they work, identifying the best people for the job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Skill Assessment 2

Start of Block: Capability

In your opinion, how CAPABLE is an AI system in a leading role of a chief executive*?

*A chief executive officer is the highest-ranking official in an organization in any department, responsible for making major business decisions and overseeing overall operations, including all the employees.

Strongly incapable Incapable Somewhat Incapable Neither Incapable nor Capable Somewhat Capable Capable Strongly Capable

End of Block: Capability

Start of Block: Desirability

In your opinion, how DESIRABLE is it, if an AI system is in a leading role of a chief executive*?

*A chief executive officer is the highest-ranking official in an organization in any department, responsible for making major business decisions and overseeing overall operations, including all the employees.

Strongly Undesirable Undesirable Somewhat Undesirable Neither Desirable nor Undesirable Somewhat Desirable Desirable Strongly Desirable

End of Block: Desirability

Start of Block: Demographics

Age

What is your age?

Gender

What is your gender?

- Male
 Female
 Prefer not to say

Country | List of Countries

Where are you from?

Education

What is your highest level of education?

- No formal education
 High school diploma
 Apprenticeship
 Bachelor's degree
 Master's degree
 Doctorate degree
 Other

End of Block: Demographics

Appendix 5: Survey 1 Results

H1-H4 T-Tests: Desirability, Ability, Integrity, Benevolence:

T-Test

Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Desirability_combined	1	142	3.2324	1.80097	.15113
	2	137	5.3577	1.21108	.10347

Independent Samples Test											
Levene's Test for Equality of Variances					t-test for Equality of Means						
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Desirability_combined	Equal variances assumed	30.799	<.001	-11.525	277	<.001	<.001	-2.12527	.18441	-2.48829	-1.76225
	Equal variances not assumed			-11.603	247.728	<.001	<.001	-2.12527	.18316	-2.48602	-1.76452

Independent Samples Effect Sizes					
		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Desirability_combined	Cohen's d	1.53985	-1.380	-1.640	-1.118
	Hedges' correction	1.54404	-1.376	-1.636	-1.115
	Class's delta	1.21108	-1.755	-2.067	-1.439

a. The denominator used in estimating the effect sizes.
 Cohen's d uses the pooled standard deviation.
 Hedges' correction uses the pooled standard deviation, plus a correction factor.
 Class's delta uses the sample standard deviation of the control (i.e., the second) group.

T-Test

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Ability_combined	1	132	4.6995	1.33324	.11604
	2	130	5.5385	.90447	.07933

Independent Samples Test

		Levene's Test for Equality of Variances				t-test for Equality of Means			95% Confidence Interval of the Difference		
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Ability_combined	Equal variances assumed	14.631	<.001	-5.952	260	<.001	<.001	-.83897	.14097	-1.11655	-.56139
	Equal variances not assumed			-5.968	230.848	<.001	<.001	-.83897	.14057	-1.11592	-.56201

Independent Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Ability_combined	Cohen's d	1.14083	-.735	-.985	-.484
	Hedges' correction	1.14413	-.733	-.982	-.483
	Glass's delta	.90447	-.928	-1.193	-.659

a. The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation. Hedges' correction uses the pooled standard deviation, plus a correction factor. Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

T-Test

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Integrity_combined	1	142	4.2394	1.17425	.09854
	2	137	4.8365	1.02073	.08721

Independent Samples Test

		Levene's Test for Equality of Variances				t-test for Equality of Means			95% Confidence Interval of the Difference		
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Integrity_combined	Equal variances assumed	1.640	.201	-4.526	277	<.001	<.001	-.59706	.13192	-.85675	-.33737
	Equal variances not assumed			-4.537	274.062	<.001	<.001	-.59706	.13159	-.85611	-.33801

Independent Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Integrity_combined	Cohen's d	1.10155	-.542	-.781	-.303
	Hedges' correction	1.10455	-.541	-.778	-.302
	Glass's delta	1.02073	-.585	-.829	-.339

a. The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation. Hedges' correction uses the pooled standard deviation, plus a correction factor. Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

T-Test

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Benevolence_combined	1	142	3.2831	1.25845	.10561
	2	137	4.1693	1.12639	.09623

Independent Samples Test

		Levene's Test for Equality of Variances				t-test for Equality of Means			95% Confidence Interval of the Difference		
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
Benevolence_combined	Equal variances assumed	3.333	.069	-6.191	277	<.001	<.001	-.88624	.14316	-1.16807	-.60442
	Equal variances not assumed			-6.203	275.466	<.001	<.001	-.88624	.14288	-1.16751	-.60498

Independent Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Benevolence_combined	Cohen's d	1.19543	-.741	-.983	-.498
	Hedges' correction	1.19868	-.739	-.981	-.497
	Glass's delta	1.12639	-.787	-1.038	-.533

a. The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation. Hedges' correction uses the pooled standard deviation, plus a correction factor. Glass's delta uses the sample standard deviation of the control (i.e., the second) group.

H5 regression analysis:

➔ Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Integrity_combined, Benevolence_combined, Ability_combined ^b	.	Enter

a. Dependent Variable: Desirability_combined
 b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.661 ^a	.437	.430	1.40256

a. Predictors: (Constant), Integrity_combined, Benevolence_combined, Ability_combined

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	393.540	3	131.180	66.685	<.001 ^b
	Residual	507.529	258	1.967		
	Total	901.069	261			

a. Dependent Variable: Desirability_combined
 b. Predictors: (Constant), Integrity_combined, Benevolence_combined, Ability_combined

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.952	.407		-2.340	.020
	Ability_combined	.526	.095	.343	5.536	<.001
	Benevolence_combined	.434	.088	.302	4.931	<.001
	Integrity_combined	.210	.113	.127	1.866	.063

a. Dependent Variable: Desirability_combined

Mediation analysis:

```

*****
Model : 4
  Y : Des_com
  X : Group
  M1 : Abi_com
  M2 : Int_com
  M3 : Ben_com

Sample
Size: 262

*****
OUTCOME VARIABLE:
  Abi_com

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .3463    .1199    1.3015    35.4213    1.0000    260.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  3.8605    .2224    17.3605    .0000    3.4226    4.2984
Group      .8390    .1410     5.9516    .0000     .5614    1.1165

*****
OUTCOME VARIABLE:
  Int_com

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .2556    .0653    1.1861    18.1766    1.0000    260.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  3.7187    .2123    17.5173    .0000    3.3007    4.1367
Group      .5737    .1346     4.2634    .0000     .3087    .8387

*****
OUTCOME VARIABLE:
  Ben_com
Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .3451    .1191    1.4729    35.1473    1.0000    260.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  2.3988    .2366    10.1403    .0000    1.9330    2.8647
Group      .8890    .1500     5.9285    .0000     .5938    1.1843

*****
OUTCOME VARIABLE:
  Des_com

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .7382    .5449    1.5956    76.9308    4.0000    257.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant -1.9143    .3864    -4.9536    .0000    -2.6753    -1.1533
Group      1.3308    .1703     7.8155    .0000     .9955    1.6662
Abi_com     .3831    .0875     4.3810    .0000     .2109    .5553
Int_com     .2525    .1016     2.4840    .0136     .0523    .4526
Ben_com     .3025    .0811     3.7294    .0002     .1428    .4623

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
    1.3308    .1703     7.8155    .0000     .9955    1.6662

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
TOTAL      .7352    .1221     .5097     .9917
Abi_com     .3214    .1073     .1411     .5555
Int_com     .1449    .0814     .0045     .3177
Ben_com     .2690    .0922     .1054     .4616

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

```

Appendix 6: Survey 2 Results

H5 T-test:

➔ T-Test

[DataSet1] /Users/felixconstantin/Desktop/Cleaned Datasets/SkillClean.sav

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Cap_num	3.78	184	1.649	.122
Des_num	3.0435	184	1.63909	.12084

Paired Samples Correlations

	N	Correlation	Significance	
			One-Sided p	Two-Sided p
Pair 1 Cap_num & Des_num	184	.596	<.001	<.001

Paired Samples Test

	Mean	Std. Deviation	Paired Differences			t	df	Significance	
			Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
				Lower	Upper				
Pair 1 Cap_num - Des_num	.73370	1.47835	.10899	.51867	.94873	6.732	183	<.001	<.001

Paired Samples Effect Sizes

	Cohen's d	Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
				Pair 1 Cap_num - Des_num	1.478
	Hedges' correction	1.484	.494	.341	.646

- a. The denominator used in estimating the effect sizes.
 Cohen's d uses the sample standard deviation of the mean difference.
 Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

H6 Regression analysis for capability:

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills ^b	.	Enter

a. Dependent Variable: Capability_num

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.305 ^a	.093	.057	1.604

a. Predictors: (Constant), OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	46.175	7	6.596	2.564	.015 ^b
	Residual	450.185	175	2.572		
	Total	496.361	182			

a. Dependent Variable: Capability_num

b. Predictors: (Constant), OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.931	.429		6.837	<.001
	Content_Skills	-.143	.135	-.131	-1.060	.291
	Process_Skills	.165	.150	.148	1.103	.272
	ComplexProbSolv_num	-.109	.103	-.119	-1.054	.293
	RecourseMGT_Skills	.205	.132	.186	1.548	.123
	Social_Skills	.345	.149	.269	2.318	.022
	System_Skills	-.223	.161	-.197	-1.384	.168
	OperationsAna_num	.047	.108	.050	.436	.663

a. Dependent Variable: Capability_num

H6 Regression analysis for desirability:

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills ^b	.	Enter

- a. Dependent Variable: Desirability_num
 b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.328 ^a	.108	.072	1.57696

- a. Predictors: (Constant), OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.613	7	7.516	3.022	.005 ^b
	Residual	435.190	175	2.487		
	Total	487.803	182			

- a. Dependent Variable: Desirability_num
 b. Predictors: (Constant), OperationsAna_num, Social_Skills, Content_Skills, ComplexProbSolv_num, RecourseMGT_Skills, Process_Skills, System_Skills

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta				Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.327	.421			5.521	<.001					
	Content_Skills	-.092	.133	-.085		-.692	.490	.095	-.052	-.049	.339	2.947
	Process_Skills	.120	.147	.109		.817	.415	.117	.062	.058	.287	3.482
	ComplexProbSolv_num	-.145	.101	-.160		-1.426	.156	.025	-.107	-.102	.407	2.458
	RecourseMGT_Skills	.166	.130	.152		1.279	.203	.180	.096	.091	.358	2.790
	Social_Skills	.452	.146	.355		3.088	.002	.250	.227	.221	.385	2.599
	System_Skills	-.237	.159	-.211		-1.498	.136	.049	-.113	-.107	.256	3.909
	OperationsAna_num	.011	.106	.012		.105	.916	.081	.008	.008	.401	2.492

- a. Dependent Variable: Desirability_num

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	Content_Skills	Process_Skills	ComplexProbSolv_num	RecourseMGT_Skills	Social_Skills	System_Skills	OperationsAna_num	
1	1	7.706	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.075	10.160	.77	.00	.00	.11	.01	.00	.00	.00	.05
	3	.055	11.811	.06	.00	.00	.25	.21	.26	.01	.01	.07
	4	.049	12.574	.03	.12	.08	.08	.11	.03	.01	.01	.39
	5	.043	13.417	.10	.11	.16	.44	.02	.10	.00	.00	.11
	6	.033	15.342	.01	.00	.01	.02	.35	.45	.10	.10	.32
	7	.024	18.103	.00	.57	.24	.04	.13	.12	.21	.21	.03
	8	.017	21.468	.03	.20	.50	.07	.18	.04	.67	.67	.03

- a. Dependent Variable: Desirability_num

H7 T-test:

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	MEAN_all_skills	4.3002	184	1.25422	.09246
	Capability_num	3.78	184	1.649	.122

Paired Samples Correlations

		N	Correlation	One-Sided p	Two-Sided p
Pair 1	MEAN_all_skills & Capability_num	184	.179	.008	.015

Paired Samples Test

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
Pair 1	MEAN_all_skills - Capability_num	.52301	1.88516	.13898	.24881	.79721	3.763	183	<.001	<.001

Paired Samples Effect Sizes

		Standardizer ^a	Point Estimate	95% Confidence Interval	
				Lower	Upper
Pair 1	MEAN_all_skills - Capability_num	Cohen's d	1.88516	.277	.130 .424
		Hedges' correction	1.89293	.276	.129 .423

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.