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Crucial Factors for Successful AI Adoption by Small Recruitment Agencies in Germany

A qualitative study based on the TOE & DOI framework

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Abstract

This study investigates the key factors influencing the adoption of artificial intelligence (AI) in small to medium-sized German recruitment agencies. Using the Technological, Organizational, and Environmental (TOE) framework by Tornatzky and Fleischer (1990) and the Diffusion of Innovations (DOI) model by Rogers (2003), this research identifies and ranks the most critical factors affecting AI adoption as perceived by decision-makers in small and medium-sized German recruitment agencies.

The qualitative research design involved 22 semi-structured interviews with senior decision-makers from 19 recruitment agencies. The study employed theoretical sampling to ensure a diverse representation of firms based on size, specialization, and digital maturity. Subsequently, the data were analyzed using thematic coding to uncover patterns in AI adoption drivers.

The analysis reveals that four factors stand out as critical for successful AI implementation. First, recruitment agencies benefit from recognizing the relative advantages of AI. Second, strong security and privacy measures are essential, as concerns over data protection consistently shape AI adoption decisions. Third, the compatibility of new AI tools with existing software and their customizability are pivotal for smooth integration. Fourth, extensive vendor support enables agencies to overcome internal resource limitations and technical challenges.

In addition to these universal factors, the study finds that the importance of other factors varies with an agency's stage of innovation adoption. Early adopters emphasize perceived ease of use and strong leadership support, while later adopters are more cautious, prioritizing cost considerations and robust change management culture.

The study contributes to the understanding of AI adoption in recruitment by identifying and ranking critical success factors specific to small and medium-sized German recruitment agencies. These insights can help recruitment firms navigate AI implementation by focusing on the most impactful factors. Moreover, the findings offer practical implications for HR technology providers seeking to tailor AI solutions to the specific needs and challenges faced by these agencies.

1. Introduction

Relevance and Justification of the Study

Artificial Intelligence (AI) is a rapidly evolving field that is transforming various industries. Generative models, such as GPT-3 (Brown et al., 2020), and emerging agentic systems (Acharya et al., 2025) are revolutionizing talent acquisition by automating tasks and enhancing decision-making. However, much of the research focuses on large enterprises or general business settings (see Sections 1.1.2 and 1.1.4), leaving a significant gap in understanding how resource-constrained recruitment agencies navigate the specific challenges of adopting AI technologies while complying with regulatory requirements like the EU AI Act (European Commission, 2024; see Section 1.1.5).

Small to medium-sized recruitment agencies are essential to the recruitment landscape in Germany (BDU, 2023). They face unique challenges due to limited resources, rapidly evolving technological landscapes, and strict legal frameworks (Werner and Schmalenbach, 2024; Ulrich et al., 2021). Academic research has not thoroughly examined these challenges (see Section 1.1.6). Given this context, exploring the key factors influencing AI adoption in this niche is timely and crucial. By addressing this gap, the study contributes to the theoretical discourse on technology adoption and provides practical insights that can assist recruitment agencies and AI solution providers in their strategic planning and decision making.

1.1. Research Background & Literature Review

1.1.1. Overview of Generative AI

The concept of AI was first introduced by McCarthy et al. in 1955, who suggested that human-like learning and reasoning could be mechanized. Nonetheless, because of its interdisciplinary characteristics, AI does not have a universally accepted definition, as highlighted by researcher McCarthy 2007. For the purpose of this study, I follow the definition by Tambe et al. (2009) in which AI is defined as "a broad class of technologies that enable a computer to perform tasks that typically require human cognition, including decision-making" (p. 16).

AI technologies can be categorized in many ways. Russell and Norvig (2010) noted common approaches like rule-based systems, machine learning, and deep learning. Rule-based systems, a precursor to modern AI, operate on fixed "if-then" rules and were used in early recruitment software, especially in resume parsing (Jiang et al., 2009). However, they lack

flexibility and struggle with complex, unstructured data. In contrast, machine learning learns from data patterns, improving decision-making over time (Mitchell, 1997). It's often used in recruitment for automating resume screening and ranking candidates based on past hiring data (Chui et al., 2018). Deep learning, a type of machine learning, employs layered neural networks to analyze complex patterns in large datasets, enabling advanced applications like video interview analysis and candidate sentiment detection (Goodfellow et al., 2016).

Generative AI is an advanced form of deep learning that focuses on creating new content, such as text, images, and audio, by leveraging patterns identified in large datasets, as Goodfellow et al. (2014) noted. A significant development in this field has been large language models (LLMs), such as GPT-3 (Brown et al., 2020), which can generate human-like text. This capability makes them particularly useful in recruitment for writing job descriptions, crafting personalized candidate messages, and automating employer branding content (Budhwar et al.,2023). Similarly, generative AI models for images, like DALL-E (Ramesh et al., 2021), can create visuals from text prompts, enhancing recruitment marketing efforts.

Generative AI has improved recruitment automation but is limited to content creation and single tasks. Agentic AI advances this by integrating generative models with autonomous decision-making systems (Acharya et al., 2025). These systems act as autonomous agents that perceive their environment, pursue complex goals, and carry out multi-step tasks with little human oversight (Acharya et al., 2025). In HR, agentic AI combines generative technologies with autonomous capabilities for daily recruitment activities, like sourcing candidates, screening, and scheduling interviews with minimal human involvement (Hancock et. al., 2023).

This thesis explores the integration of advanced AI in recruitment, emphasizing machine learning, deep learning, generative AI (including AI-powered chatbots and automated content generation), and agentic AI. Traditional rule-based systems are excluded because they depend on rigid, predefined rules and lack the ability to learn, adapt, or improve over time—capabilities that are fundamental to modern AI-driven recruitment technologies.

1.1.2. Current State of AI Adoption in Businesses

AI is applied across industries, including supply chain management, manufacturing, finance, and customer service. In these fields, AI has become a key driver of digital transformation, enabling businesses to enhance efficiency, automate processes, and improve data-driven decision-making (Czarnitzki et al., 2023). Companies that successfully integrate

AI often gain a competitive advantage (Dahlke et al., 2024). However, while large corporations benefit from financial and technological resources, small and medium-sized enterprises (SMEs) face significant challenges in adoption, such as budget constraints and limited technical expertise (Horani et al., 2023; Alsheiabni et al., 2019).

Several barriers hinder AI adoption, especially for SMEs. A significant challenge is the limited understanding of AI's business applications, which prevents firms from recognizing its value. Financial constraints further complicate adoption, as the costs of implementation, maintenance, and workforce training can be high (Jöhnk et al., 2021). Even with AI investment, data-related issues—such as inconsistent data quality, fragmentation, and IT incompatibility—often impede progress (Jöhnk et al., 2021). Furthermore, AI's complexity and uncertainty lead to employee resistance, slowing adoption. This problem is exacerbated by weak leadership support, often stemming from uncertainty regarding AI's return on investment. Security concerns and external factors such as AI policies and regulatory shifts further complicate adoption (Alsheiabni et al., 2019).

In contrast to these challenges, research also focuses on several factors that contribute to successful AI adoption. One of them is the alignment of AI initiatives with strategic objectives (Horani et al., 2023; Jöhnk et al., 2021). Another factor is strong leadership and top management that support overcoming resistance, allocate resources, and foster an innovation-driven culture (Jöhnk et al., 2021). Investing in change management and workforce readiness - through upskilling - also ensures a smoother transition (Jöhnk et al., 2021). External support, including vendor assistance and AI infrastructure access, further enables businesses to acquire the necessary expertise (Jöhnk et al., 2021).

1.1.3. Current State of AI Adoption in Talent Recruitment

Talent recruitment is transforming significantly as AI-based technologies reshape traditional hiring practices (Weber, 2023; Abdelhay et al., 2024). Over the past few years, various AI tools have increasingly been integrated into different stages of the recruitment process (Abdelhay et al., 2024). For example, AI-powered applicant tracking systems (ATS) and candidate relationship management (CRM) software can analyze resumes, extract relevant candidate information, and rank applicants based on predefined criteria (Bevara et al., 2025). This automation greatly reduces the manual workload of HR professionals, allowing recruiters to focus on more strategic tasks (Abdelhay et al., 2024). Besides ATS and CRM software, generative AI, such as ChatGPT, produces recruitment-related content, including job

descriptions, personalized outreach messages, and interview questions. By streamlining communication and ensuring consistency in messaging, AI helps recruiters enhance their engagement with potential candidates (Abdelhay et al., 2024).

The efficiency gains from AI adoption in recruitment are evident in several areas. First, AI increases recruitment efficiency by automating the initial screening process, enabling quicker identification of suitable candidates and better resource allocation (Bevara et al., 2025). Machine learning models can examine historical hiring data to predict candidate success and cultural fit, allowing recruiters to make more data-driven decisions instead of relying solely on intuition (Pan et al., 2022). Furthermore, Abdelhay et al. (2024) suggested that AI has the potential to promote diversity and inclusion by reducing unconscious bias in hiring decisions. By concentrating on candidate qualifications rather than demographic characteristics, AI-driven hiring tools can foster a more objective and fair evaluation process.

Despite these advantages, several challenges hinder the widespread adoption of AI in talent recruitment. One of the primary concerns is the potential for algorithmic bias, which can perpetuate existing inequalities and lead to unintended unfair hiring practices if not properly managed. This is because AI systems are trained on an existing data set, which could amplify and reinforce existing biases in recruitment practices (Tambe et al., 2019). Additionally, many organizations hesitate to fully adopt AI-driven hiring tools because of legal questions regarding data privacy, the handling of candidates' personal information, and the changing regulatory environment related to AI in recruitment (Alsheiabni et al., 2019). Resistance to AI adoption among HR professionals is another significant obstacle, as many recruiters fear that AI may diminish the human aspect of hiring decisions or even threaten their own roles (Weber, 2023). Within organizations, a lack of leadership support and low-quality HR data further complicate AI adoption, as companies may struggle to integrate AI tools into their existing recruitment processes effectively (Singh & Pandey, 2023)

Nevertheless, the future of AI in talent recruitment appears promising. Abdelhay et al. (2024) believed that instead of replacing recruiters, AI is expected to be an augmentative tool that enhances decision-making and efficiency, allowing HR professionals to concentrate on relationship-building and strategic talent acquisition. For broader acceptance in the recruitment industry, future AI systems must include clear ethical guidelines, bias detection mechanisms, and explainability features to ensure fairness and transparency in hiring decisions (Tambe et al., 2019). Regulatory developments, such as the EU AI Act (European

Commission, 2021), will likely provide more structured frameworks for AI implementation in recruitment.

1.1.4. Current State of AI Adoption in German SMEs

The concept of small and medium-sized enterprises (SMEs) varies in definition across different sources, which leads to inconsistencies in academic literature and practical applications. According to Arenz and Münstermann (2013), SMEs may be defined by qualitative attributes, quantitative benchmarks, or their combination. In this study focusing on SMEs in Germany, I adopt the criteria set by the Institut für Mittelstandsforschung (IfM) Bonn, which defines SMEs as companies employing fewer than 500 individuals and generating annual sales of no more than €50 million (IfM Bonn n.d.).

After defining SMEs, it is crucial to examine their current adoption of AI. German SMEs are increasingly exploring digital transformation by adopting AI to improve operational efficiency, streamline workflows, and achieve a competitive advantage (Jöhnk et al., 2021). Despite the potential benefits, SMEs at both the German and European levels have been slower in adopting AI, resulting in competitive disadvantages in the international market (Licht & Wohlrabe, 2024; Ulrich et al., 2021).

From a technological perspective, the study by Ulrich et al. (2021) revealed that German SMEs prefer rule-based systems and machine learning to more advanced AI systems such as deep learning, computer vision, and chatbots. They are motivated by the relative advantages of these systems, such as the ability to automate repetitive tasks, improve data management, and enhance decision-making and operational efficiency (Ulrich et al., 2021). The availability of high-quality datasets is crucial for AI applications, ensuring AI systems are trained on reliable information (Jöhnk et al., 2021). However, the significant costs associated with AI implementation—including expenses for software, IT infrastructure, and employee training—further limit SMEs' ability to invest in these technologies (Ulrich et al., 2021).

When considering the organizational factors that facilitate successful AI adoption in German SMEs, it is essential to align AI initiatives with specific business goals, provide adequate financial, human, and IT resources, and establish a strong foundation of knowledge and skills in AI. Leadership support and participative change management play a critical role in upskilling the workforce and enhancing understanding of AI ethics to address resistance (Jöhnk et al., 2021).

Concerning environmental factors, many German SMEs recognize a shortage of AI specialists as a major issue. Consequently, they aim to incorporate vendor expertise to address the internal skill gap, as observed by Werner and Schmalenbach (2024). Moreover, regulatory challenges and concerns about data security further hinder AI adoption (Ulrich et al., 2021).

1.1.5. The EU AI Act & Implications for Recruiters

The EU AI Act creates a legal framework ensuring the safe and ethical development and use of AI in Europe (Regulation (EU) 2024/1689). It features a risk-based classification system categorizing AI into four risk levels: unacceptable, high, limited, and minimal (European Commission n.d.-a). In recruitment, AI tools for employment and worker management, like CV-sorting software, are deemed high risk due to their impact on fundamental rights (European Commission, n.d.-a). The Act took effect on August 1, 2024, and will be fully applicable on August 2, 2026, initiating a phased compliance schedule to reshape HR practices with high-risk standards (European Commission n.d.-a).

This high-risk classification requires recruitment agencies to ensure that their AI systems adhere to the Act's standards (European Commission n.d.-a), such as the requirement to provide candidates with clear explanations about data usage and the rationale behind automated decisions (Regulation (EU) 2024/1689, 2024, Chapter IV). Meanwhile, AI vendors need to conduct thorough risk assessments and secure certifications so that their AI solution reduces legal and reputational risks (Regulation (EU) 2024/1689, 2024, Articles 29-30).

The Act also mandates data governance frameworks to ensure quality data and corrective measures for adverse decisions (Regulation (EU) 2024/1689, 2024, Article 10). Consequently, recruitment agencies need to upskill HR teams and partner with technology providers for legally sound AI solutions (Staes et al., 2024).

1.1.6. Gap in Existing Literature

While research on AI adoption is growing, significant gaps persist—particularly for small and medium-sized recruitment agencies in Germany. This sector is vital to the German talent recruitment market, consisting of 2,450 recruitment agencies with an annual revenue of €3 billion (BDU, 2023). First, many studies focus solely on AI adoption in businesses (see section 1.1.2) or among German small and medium-sized enterprises (SMEs) (see section 1.1.4). While these studies offer valuable insights into general AI adoption trends, they do not

specify the unique challenges and opportunities that small and medium-sized recruitment agencies in Germany face.

Secondly, the rapid evolution of AI—especially with the emergence of advanced generative AI technologies (see section 1.1.1)—creates a gap in current research, as many studies do not reflect the latest technological advancements. Many influential studies were published before the release of ChatGPT in November 2022 and do not address the factors critical to adopting these advanced tools in recruitment, as discussed in the section 1.1.3.

Thirdly, the recent enactment of the EU AI Act (section 1.1.5) introduces a regulatory dimension that previous research has largely overlooked, which is significant because it establishes new compliance requirements that could hinder AI adoption in recruitment. With phased implementation beginning in August 2024, the Act makes AI adoption in high-risk areas like recruitment more challenging due to its stringent regulations requirements.

These observations highlight the pressing need to investigate the unique challenges and opportunities for AI adoption in small to medium-sized recruitment agencies in Germany, especially considering the rapid technological advancements and regulatory changes. This identified gap lays the foundation for my study's research goal, which will be detailed in the next section.

1.2 Research Goal

This study aims to rank the technological, organizational, and environmental factors that influence AI adoption in small to medium-sized German recruitment agencies. It addresses the gap mentioned in section 1.1.6, where existing literature overlooks the unique challenges and opportunities in the recruitment sector, despite its strategic importance in the German talent market 2023). The overarching research question addresses this issue: "*In the context of small to medium-sized German recruitment agencies, how do decision makers perceive the factors influencing AI adoption, and which 4–5 critical factors should be prioritized for successful implementation*?" This question focuses on the forward-looking views of leaders before adopting AI rather than the results after implementation.

Specifically, this study pursues several specific objectives. First, it aims to assess how decision makers evaluate the factors affecting AI adoption. Second, it investigates how an organization's placement on the DOI curve (for example, innovation, early adopter) shapes its approach to AI implementation, thereby contributing to a deeper understanding of AI adoption

in the strategic decision-making of recruitment agencies. Third, the study seeks to identify gaps between the factors that decision-makers consider and other critical elements, such as legal requirements and data security. Finally, it will provide actionable recommendations for recruitment agencies and AI vendors to support successful AI integration.

1.3 Theoretical Implication

This research is vital from both theoretical and practical standpoints. Theoretically, it addresses the gap in literature concerning the examination of AI adoption in small to medium-sized recruitment agencies in Germany. Previous studies (Horani et al., 2023; Jöhnk et al., 2021; Ulrich et al., 2021) have identified critical factors influencing AI adoption; however, these studies have not sufficiently explored the intersection of technological, organizational, and environmental factors that small to medium-sized recruitment agencies in Germany encounter. By applying and extending the TOE and DOI frameworks within this context, the study bridges this gap by identifying and ranking the 4–5 most critical factors, thereby providing valuable insights for future research on AI adoption.

The studies aim to provide practical findings beyond academia. Recruitment agencies face unique resource constraints and regulatory pressures, like the evolving EU AI Act (Section 1.1.5), benefiting from tailored recommendations. Decision-makers can prioritize AI investments to ensure solutions are sound, aligned with goals, and legally compliant. AI vendors can use these insights to create solutions for underrepresented small and medium-sized recruitment agencies.

2. Theoretical Foundations and Hypothesis Development

2.1. Theoretical Foundations

2.1.1. The Technology-Organization-Environment (TOE) Framework and Its Applications

This study draws on the well-established Technology-Organization-Environment (TOE) framework developed by Tornatzky and Fleischer (1990) to analyze the factors influencing AI adoption in recruitment. The TOE framework is validated in fields like talent acquisition (Pan et al., 2022; Roppelt et al., 2025) and AI adoption in SMEs (Jöhnk et al., 2021), showing its relevance to AI adoption in small recruitment agencies. In particular, the TOE framework examines how technological, organizational, and environmental factors shape a firm's decision to implement new technologies. The following sections elaborate on the three factors.

The technological context includes the characteristics and accessibility of relevant existing and emerging technologies (Tornatzky & Fleischer, 1990). This encompasses both internal technologies, currently used within the organization, and external technologies available in the market for potential integration. In this context, adoption is shaped by perceived technical benefits, compatibility and complexity with existing technology infrastructure.

The organizational context includes factors like organizational size, hierarchy, decision-making, communication methods, and internal resources, which can either facilitate or obstruct technological adoption (Tornatzky & Fleischer 1990). The organization’s structure and capacity to allocate resources efficiently are critical in determining technology's successful implementation.

The environmental context considers external forces that shape an organization's decisions regarding technology adoption, including competitive pressures, regulatory requirements, and the broader industry landscape (Tornatzky & Fleischer, 1990). Firms operate within an ecosystem influenced by competitors, suppliers, and regulatory bodies that affect AI adoption. For instance, government policies and legal frameworks, such as the EU AI Act, may impose restrictions or incentives that influence the pace and scope of AI implementation in recruitment.

The TOE framework thus provides a theoretical basis for understanding AI adoption in recruitment, enabling a comprehensive assessment of various technological integration dimensions. This section outlines three contextual factors and examines their relevance to AI adoption in Section 2.2 (Hypothesis Development), analyzing fifteen relevant factors. Additionally, Rogers' Diffusion of Innovations (DOI) framework offers insights into the spread of AI adoption organizations.

2.1.2. Diffusions of Innovations (DOI) Framework and Its Applications

The Diffusion of Innovations (DOI) theory, originally proposed by Rogers (2003), complements the TOE framework by highlighting that innovation adoption rates depend significantly on users' perceptions of its attributes. The characteristics of innovations that influence adoption are central to DOI, including relative advantage, compatibility, complexity, trialability, and observability. Beyond the inherent attributes of innovations, the DOI theory also categorizes adopters into five distinct groups based on their readiness to embrace new technology: innovators, early adopters, the early majority, the late majority, and laggards.

The DOI theory overlaps with the TOE framework in several aspects (Baker, 2012). For example, Ilin et al. (2017) noted that the organizational and technological dimensions of the TOE framework correspond closely with the innovation characteristics and organizational context emphasized in the DOI model. However, the DOI theory does not explicitly address environmental factors, a central component of the TOE framework. Since this study focuses on AI adoption at the organizational level, combining DOI with TOE offers a more comprehensive framework that considers a broader spectrum of influences—technological, social, and environmental—that affect AI adoption. This integrated approach is consistent with previous research in similar areas (e.g., Hiran & Henten, 2020; Horani et al., 2023). It sets the stage for a detailed exploration of factors driving AI adoption in German SMEs recruiters, which will be discussed further in Section 2.2.

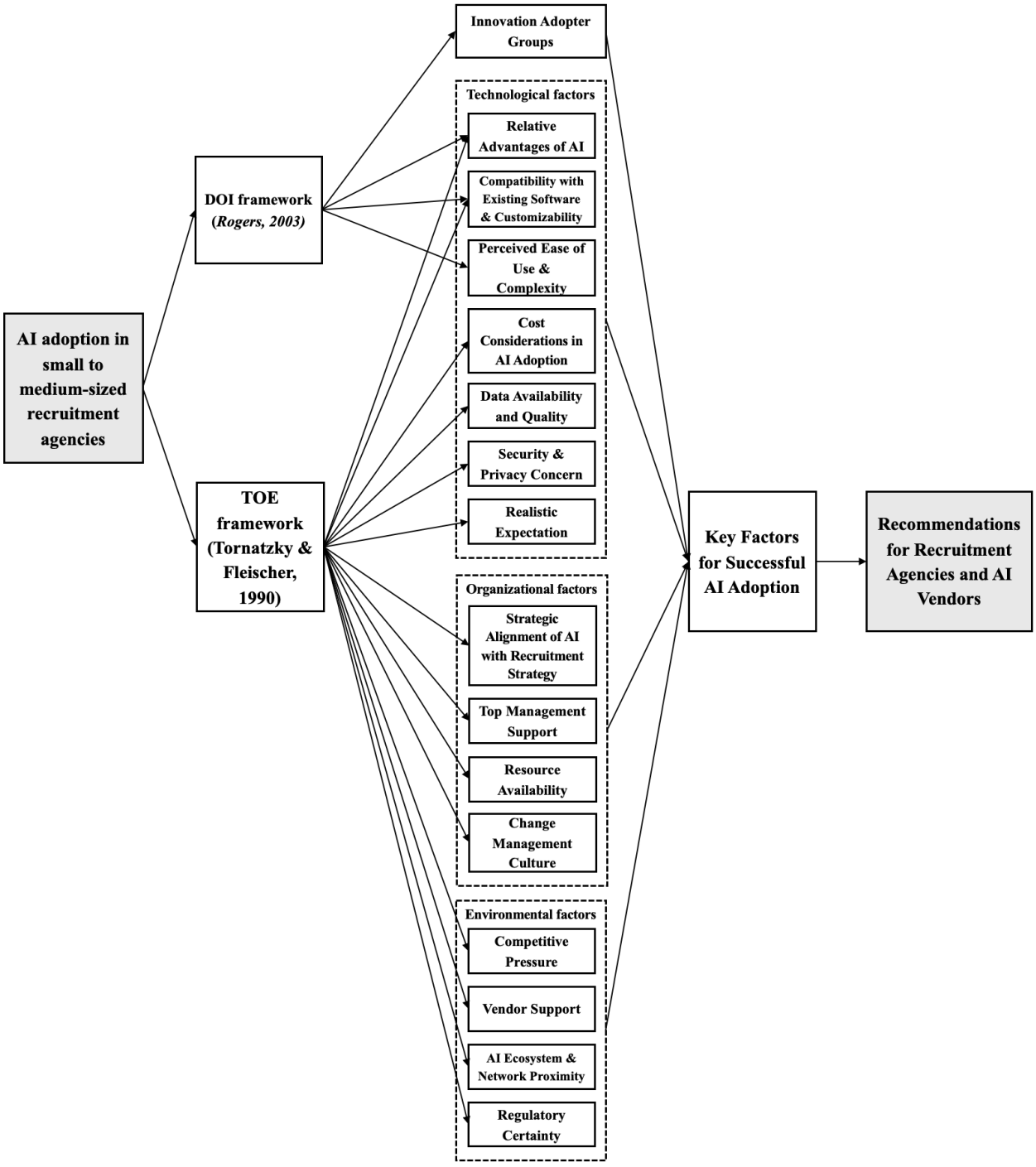
2.2. Hypothesis Development

Building on the theoretical foundations outlined above, the next section translates these frameworks into a concrete set of research hypotheses. The integration of the TOE and DOI frameworks has enabled the identification and categorization of 15 key factors influencing AI adoption in small to medium-sized recruitment agencies. As shown in Figure 1, these factors are organized into technological, organizational, and environmental dimensions according to

the TOE framework, while the DOI framework contributes by highlighting the innovation adopter group. This viewpoint on adopter groups sheds light on how organizational readiness and innovativeness can impact the prioritization of these factors. The resulting model serves as the foundation for developing specific hypotheses that investigate how these factors drive AI adoption decisions, setting the stage for the empirical exploration in the following sections.

Figure 1.

Integrated Conceptual Model for AI Adoption in Small to Medium-Sized Recruitment Agencies



2.2.1 Technology Factors

Relative Advantages of AI

AI applications promise various benefits for recruitment agencies due to their ability to automate repetitive tasks and manage unstructured data. According to Pillai & Sivathanu (2020) and Gusain et al. (2024), AI applications can be seamlessly integrated into various activities throughout the candidate recruitment lifecycle. Firstly, generative AI can draft compelling job descriptions and create visually appealing job advertisements that attract qualified candidates. As candidates express interest, AI-powered chatbots can guide them to submit job applications. Once applications are received, AI systems can rank and match candidates to appropriate roles based on predefined criteria, thus automating and streamlining the screening process. During interviews, AI can transcribe and summarize candidate responses, assisting recruiters in efficiently comparing shortlisted candidates. Finally, once a candidate is hired, AI-based training tools facilitate a rapid onboarding process, helping new hires quickly adjust to their new roles organization.

These aforementioned abilities of AI offer various relative advantages compared to traditional recruiting methods. According to Rogers (2003), relative advantage is a critical determinant of innovation adoption - when the tangible benefits of an innovation are recognized, organizations are more likely to incorporate it into their operations. Schaefer et al. (2021) explained that AI systems assist recruiters in making decisions in real time with fewer human errors, enabling them to gain a competitive edge by swiftly responding to market changes. Additionally, Sadiku and Musa (2021) emphasized that AI's capacity to automate business processes results in significant cost and time savings, allowing professionals to concentrate on more strategic, cognitively demanding tasks. In line with these insights, Alsheibani et al. (2020) argued that perceived advantages positively affect AI adoption, as organizations tend to pilot AI when they perceive its benefits.

Overall, AI's relative advantage of automating routine tasks, saving time, improving data handling with less human error, and providing cost efficiency, all of which drive its adoption in modern contexts organization.

Compatibility with Existing IT Foundation (ATS/CRM) and Customizability

Compatibility with existing IT foundations and customizability are crucial factors for the successful adoption of AI in recruitment processes. According to Rogers (2003),

compatibility refers to the extent to which an innovation is seen as consistent with the existing values, past experiences, and needs of potential adopters. This alignment is vital because innovations that necessitate a shift in organizational processes or structures tend to face resistance and delayed adoption. Chatterjee et al. (2021) further emphasized that compatibility pertains to how seamlessly AI can be integrated into a firm's existing processes and technological infrastructure. Such compatibility is essential in the IT landscape of recruitment agencies, where systems like Applicant Tracking Systems (ATS) are utilized in daily operations (Gusain et al., 2024).

Hamm and Klesel (2021) emphasized that the adaptability of AI in IT infrastructure is one of the most frequently mentioned factors in the technology dimension of AI adoption. When AI solutions are customized to meet the specific requirements of recruitment practices, this adaptable approach enhances user acceptance and further reduces barriers to adoption. Gusain et al. (2024) provided empirical evidence that integrating tailored AI into e-recruitment minimizes disruptions to existing workflows and lowers the need for extensive retraining. Overall, ensuring compatibility with existing IT foundations and offering adaptability is essential for increasing the likelihood of successful AI implementation organizations.

Perceived Ease of Use

Perceived ease of use positively influences the adoption of innovative technologies. Rogers (2003) noted that simpler innovations are adopted more quickly. Thus, an AI system with an intuitive interface and minimal learning curve reduces friction in adopting new tools. This view is shared by Hamm and Klesel (2021), who argued that users are more likely to adopt technologies that closely align with their intended use purposes

In contrast, when AI software is complex to use or understand, it negatively influences companies' decisions to adopt it (Pan et al., 2022). Their research suggests that AI systems need to have a straightforward interface, simplified underlying processes, and ultimately must be easy for recruiters to understand. This way, recruiting organizations can make the most of AI's benefits while minimizing training costs and disruption to their operation.

Cost considerations in AI adoption

Cost considerations play a crucial role in technology adoption, as organizations need to invest in technology acquisition, implementation, training, system integration, and software

maintenance, and this is the same case with regard to AI implementation, as noted by Pan et al. (2022). Therefore, organizations should carefully evaluate their needs, their budget, their strategic goals, and readiness before buying AI systems. For smaller organizations with limited capital for technology investments, cost becomes an even more significant factor in purchasing decisions (Premkumar and Roberts, 1999).

In this context, a comprehensive cost-benefit analysis becomes critical. According to Premkumar and Roberts (1999), decision makers prioritize cost-effectiveness, meaning the long- and short-term benefits organizations gain from technology adoption must outweigh the initial and ongoing costs. Ren (2019) emphasized the importance of strategically considering the long-term potential of AI, including enhanced recruitment, improved short-term process efficiency, and achieving a competitive edge through greater value proposition. This strategy ensures that AI adoption helps businesses gain higher returns on investment and justify initial investment (Pan et al., 2022).

Data Availability and Quality: Easier for Firms with Strong Data Assets

The quality of an organization's training data is a critical factor that influences the effectiveness and efficiency of AI adoption. Organizations with well-maintained data assets typically experience a smoother transition to AI integration due to their established data management practices. High data quality—characterized by precise records, comprehensive datasets, consistent formats, and timely updates—is essential for training reliable AI models (Aldoseri et al., 2023).

In addition to quality, having enough training data is crucial. Hamm and Klesel (2021) argued that the performance of AI systems is also highly dependent on the amount of data used for learning. The quantity of data needed to train AI models varies significantly with the complexity of the tasks that AI automates.

Overall, organizations that successfully maintain comprehensive and well-structured knowledge bases, integrate various data sources, and implement stringent data governance can better harness the full potential of AI, as argued by Maragno et al., (2023).

Security & privacy concern

Security and privacy concerns are paramount when adopting AI-driven technologies due to the highly sensitive nature of the data involved. Zafar (2013) suggested that security reflects how stakeholders perceive an information system's vulnerability during data

processing and exchanges. This is especially critical for AI-driven recruitment systems, where personal information—such as candidates' resumes, interview transcripts, and selection outcomes—is collected and processed. Furthermore, van Esch et al. (2019) argued that robust security measures for an information system are not only a technical necessity but also a legal and ethical requirement, particularly for AI tools in talent acquisition

As a result, Aldoseri et al. (2023) emphasized that AI systems must follow robust data protection protocols to avert unauthorized access and breaches. They also suggest implementing advanced privacy-preserving techniques—like differential privacy and strong anomaly detection—to reduce leakage risks.

Realistic Expectation of AI Performance & Limitations

It is crucial to establish realistic expectations regarding technology's capabilities and limitations for users to accept it. Dietvorst et al. (2015) found that although algorithms often provide more accurate predictions than humans, users tend to exhibit “algorithm aversion" and favor human judgment. To reduce this "algorithm aversion," Lee and See (2004) highlighted the importance of automated systems producing consistent and predictable outcomes to gain user trust.

Even when AI systems consistently provide reliable answers, the concept of performance expectancy introduces another dimension to users' perceived benefits and their willingness to adopt AI. Venkatesh et al. (2003) argued that users are more inclined to adopt a technology if they believe it will improve their job performance. However, if AI fails to meet expectations, the gap between expectation and reality may increase reluctance to fully integrate AI into critical contexts processes.

Furthermore, in complex environments where analytical tasks demand a nuanced understanding of human behavior, human judgment remains essential. Parasuraman et al. (2000) propose that, while technology automates routine tasks, humans should maintain continuous oversight and make final decisions.

2.2.2. Organizational factors

Alignment of AI with Recruitment Strategy

Businesses need to align AI with their strategy for AI to be successfully utilized, as argued by Kitsios and Kamariotou (2021). Iansiti and Lakhani (2020) pointed out that the

complexity of AI requires constant changes in resources, culture, staff, and decision-making. This means that AI systems and hiring strategies must develop together for the organization to stay relevant.. Similarly, Maragno et al. (2023) recommended beginning with narrowly scoped projects to facilitate a gradual pilot transition, allowing teams to monitor systems for continuous improvement. Therefore, close collaboration between AI developers and domain experts within the company should be encouraged to create a solution that aligns more closely with the organization's recruitment strategy (von Richthofen et al., 2022).

Top Management Support

Top management support is recognized as a crucial force of successful AI adoption. Jöhnk et al. (2021) argued that top management commitment is essential for AI initiatives, as it signals that AI is a strategic priority, fosters an innovative culture within organizations, and encourages openness to technology.

Moreover, management support is necessary to ensure that AI initiatives receive adequate financial and human resources (Hamm and Klesel, 2021). Management helps allocate resources and provides the autonomy and flexibility needed for focused AI development. By allowing project teams to focus on important tasks, management facilitates collaboration with AI developers, helping teams to improve algorithms and tailor AI solutions to fit specific organizational needs, which is essential for tackling challenges in complex AI projects (Pillai & Sivathanu 2020).

Additionally, von Richthofen et al. (2022) suggested that board members should have AI expertise. They can identify use cases aligning with business objectives, encourage AI initiatives, and create a suitable organizational structure enabling AI knowledge exchange (von Richthofen et al., 2022).

Resource Availability (Financial, IT, Operation)

The availability of adequate resources is a critical factor for successful AI adoption, encompassing financial, IT, and operational dimensions. Pumplun et al. (2019) stress that organizations need initial financial resources for the initial costs of AI acquisition, implementation, training and the ongoing expenses for enhancement and maintenance. A well-funded budget enables the organization to experiment with various initiatives and prepares it for potential delays associated with complex AI implementations.

Besides monetary investment, having AI-savvy human resources and in-house technical skills is recommended. Maragno et al. (2023) stressed the importance of hiring personnel with a knack for AI, along with specialized AI expertise, such as AI trainers and data scientists, who can customize AI applications to fit organizations' unique contexts.

Ultimately, successful AI adoption relies heavily on strategic investments in financial resources, human capital, and IT infrastructure (Alsheiabni et al., 2019). Organizations that address these resource needs are better positioned for long-term AI adoption; this not only enhances their competitive advantage but also ensures sustainability success.

Change Management Culture

According to Pumplun et al. (2019), a open-minded management culture with willingess to change its procedure and structure is important to the successful adoption of AI in organizations. It prepares employees for the transformation introduced by AI and lessens their resistance to changes in tools and processes by setting the right expectations for employees regarding the new way of working and fostering a supportive environment.

Firstly, transparent communication plays a crucial role in alleviating misconceptions about AI, especially fears of job displacement. Fountaine et al. (2019) argue that AI may take over repetitive tasks but won't eliminate job categories. By clarifying which functions AI would take over, organizations can ease concerns and encourage the adoption of support.

Moreover, it's important to involve employees early in AI development. von Richthofen et al. (2022) noted that employee involvement early in the development cycle makes it easier to integrate AI. This method reduces worries, encourages users feedback, and ensures AI tools meet their needs, which ultimately helps with AI adoption by users.

Alongside communication and participation, employee training is a vital element of change management. Hamm and Klesel (2021) highlighted the necessity of upskilling the workforce so that employees can fully utilize AI features and benefits. This strategy develops the essential technical skills and nurtures a culture that adapts and remains resilient amidst rapid technological advancements.

2.2.3. Environmental Factors

Competitive Pressure

Competitive pressure is a critical driver of AI adoption, particularly in dynamic industries where maintaining a competitive edge is essential for success. As Alsheibani et al. (2020) argued, the adoption of new technologies is often driven by the need to remain competitive in rapidly changing markets. This perspective is supported by Chen et al. (2021) and Nguyen et al. (2020), who claimed that firms in high-pressure environments are more likely to invest in advanced technologies to improve their market position.

Furthermore, the impact of competitive dynamics is also apparent in talent acquisition. Singh (2018) emphasized that the emergence of the internet and digital platforms has heightened the competition for skilled professionals. HR managers are increasingly adopting advanced recruitment technologies to tap into a wider talent pool and shorten the time needed to find candidates. Likewise, Alam et al. (2016) noted that competitive pressures have played a significant role in promoting the adoption of HR technology.

Overall, the rapid pace of technological change requires talent recruitment firms to continuously evaluate and adopt cutting-edge technologies like AI to sustain or enhance their operations competitiveness.

Vendor Support

Vendor support is essential for introducing AI innovations in businesses. Chen et al. (2021) and Pillai & Sivathanu (2020) noted that small and medium-sized enterprises face substantial challenges when implementing and maintaining AI systems due to a lack of in-house technical expertise, stemming from AI's inherent complexity. Consequently, companies increasingly depend on external vendors to fill this knowledge gap.

In addition to addressing the shortage of technical skills, strategically selecting the right AI vendor that aligns with the organization’s needs is essential for successful technological transformation (Vasiljeva et al., 2021). Maragno et al. (2023) further emphasized that vendors not only serve as AI development service providers but also act as change catalysts, supporting the organization’s broader strategic objectives by building new technological capabilities and upskilling internal teams. Thus, effective vendor partnerships are vital for driving AI adoption.

AI Ecosystem & Network Proximity

Research on AI adoption indicates that its spread is concentrated in specific geographic hubs. Dahlke et al. (2024) identified three main mechanisms that explain this concentration: indirect co-location, direct exposure to deep AI knowledge, and relational embeddedness. Regions associated with cities that have established research institutions tend to have more firms with advanced AI expertise and stronger interfirm connections.

Additionally, AI ecosystem and network proximity are essential for leveraging AI capabilities of surrounding organization. According to Nambisan et al. (2017), digital transformation relies on an organization's extensive network of knowledge. Boschma (2005) showed that proximity—geographical, cognitive, organizational, social, and institutional—facilitates knowledge flow and drives innovation. These interactions enable the spread of technologies and allow firms to respond quickly to advancements.

Regulatory Certainty (e.g., EU AI Act)

A well-defined regulatory framework is vital for guiding AI adoption. Dahlke et al. (2024) found that clear policy frameworks can significantly enhance the deployment of AI, especially in public settings. Alsheibani et al. (2020) and Vasiljeva et al. (2021) showed that AI regulatory frameworks provide organizations with clear guidelines, which eases their concerns and uncertainty, and boost their confidence with AI implementation.

Furthermore, regulation plays a crucial role in addressing ethical concerns, such as algorithmic bias, exemplified by the EU AI Act (European Commission, 2021). Magham (2024) demonstrates how Explainable AI (XAI) techniques, including SHAP and LIME, can identify and interpret potential biases in recruitment algorithms, thereby ensuring fairness and transparency in talent acquisition. In conclusion, robust regulatory frameworks are essential for promoting the ethical adoption of AI in recruitment processes.

2.3. Focused Propositions for Critical AI Adoption Factors

Based on my comprehensive review in Section 2.2, which identified fifteen factors influencing AI adoption, I propose that not all identified factors exert equal influence on the success of AI adoption. In the context of small to medium-sized German recruitment agencies, I hypothesize that the following four factors are the most critical:

Hypothesis 1 (H1): Relative Advantages of AI

Recruitment agencies that recognize the advantages of AI—such as increased productivity and enhanced processing of unstructured data—are likely to adopt AI solutions more readily. Rogers (2003) supported this idea by identifying relative advantage as a key factor in the uptake of innovation. Furthermore, empirical studies indicate that efficiency gains are a primary motivator for technology adoption in human resource management (Schaefer et al., 2021).

Hypothesis 2 (H2): Security and Privacy Concerns

Given the sensitive nature of candidate information, robust data protection is essential. Agencies that prioritize security and privacy in their assessment of AI systems are likely to adopt these technologies with caution. Stringent security measures are vital for technology acceptance in data-intensive contexts, as highlighted by Zafar (2013) and van Esch et al. (2019).

Hypothesis 3 (H3): Top Management Support

Organizations where top management is committed to innovation and aligns AI initiatives with recruitment strategies are likely to achieve more successful AI implementations. Furthermore, visionary leadership and strategic alignment are recognized as critical factors for overcoming adoption barriers and maintaining a competitive advantage (Iansiti and Lakhani, 2020; von Richthofen et al., 2022).

Hypothesis 4 (H4): Vendor Support

For small to medium recruitment agencies with limited in-house AI expertise, relying on external partnerships is critical. Strong vendor support is essential to alleviate resource constraints and enable the effective integration of AI technologies. This argument is supported by studies showing that external expertise is crucial for smaller organizations that lack extensive technical capabilities (Chen et al., 2021; Pillai & Sivathanu 2020).

3. Methodology

3.1. Research Design

This study employs the case study research design by Eisenhardt (1989, which is used to develop theories that are testable, generalizable, logically coherent, and supported by empirical evidence (Gehman et al., 2018). As noted by Eisenhardt (1989) and Gehman et al. (2018), this approach is particularly suited for examining complex processes involving multiple interacting variables and pathways to outcomes. In the context of AI adoption—a phenomenon characterized by novelty and complexity—this methodology strikes a balance between in-depth understanding and broad applicability insights.

The TOE and DOI frameworks helped identify 15 factors that affect AI adoption, described in Section 2.2 (Hypothesis Development). This research design will use these 15 factors to systematically investigate their impact on the decision-making processes of small to medium-sized talent recruiters in Germany, through detailed case studies and interviews.

Furthermore, Eisenhardt's (1989) case study design supports both theoretical sampling and rigorous cross-case analysis, capturing rich, nuanced perspectives from decision-makers on AI implementation. As Eisenhardt (1989) and Gehman et al. (2018) emphasized, employing multiple cases produces a parsimonious, accurate, and generalizable theory. This approach allows for investigating 'hard-to-measure constructs' and enhances structured comparative analysis through visual mapping and quantification techniques.

The qualitative case study design effectively highlights important factors that impact AI adoption among recruiters. By comparing new data with the Technology-Organization-Environment (TOE) and Diffusion of Innovations (DOI) frameworks and looking at several cases, this method captures the complex nature of AI adoption while ensuring the results are relevant.

3.2. Case Context and Selection Criteria

The research uses theoretical sampling, as described by Eisenhardt (1989), to choose cases that can repeat or build on the results. To capture the nuances of AI adoption, the focus is on small-to-medium recruitment agencies—defined by IfM Bonn (n.d.) as those employing fewer than 500 individuals with annual sales not exceeding €50 million.

To identify relevant cases, I searched for German recruitment agencies on LinkedIn and search engines, focusing on indicators of technological advancement and openness. These indicators included LinkedIn posts referencing AI, identified through keyword searches such as ‘KI in der Rekrutierung’ and tracking tools on their websites. I then contacted these recruitment agencies via email, as explained in section 3.3.1.

The selected sample aimed to capture a variety of practices, including agencies that specialize in contingency recruitment, interim management, executive search, and temporary staffing. In total, 19 organizations were examined, with company sizes ranging from fewer than 10 to 500 employees, representing distinct stages in the innovation adoption cycle, as outlined by Rogers (2003). All but one agency operates in Germany, providing a uniform regional context for this study.

Table 1.

Characteristics of Participating Recruitment Agencies, their AI Applications, and their Innovation Adoption Categories.

Recruitment agency (R)	**No. of interviews**	**Headquarter location / Company size / Specialization**	**AI applications**	**Innovation adapter group**
R1	1	Near Cologne, Germany 5 - 10 employees Contingency Recruitment	AI Chatbot (Microsoft Copilot) for information retrieval and content generation.	3. Early Majority
R2	1	Near Munich, Germany 5 - 10 employees Interim Management, HR Coaching	AI Chatbot (ChatGPT) for initial inquiry and candidate interaction.	4. Late Majority
R3	1	Munich, Germany 1 - 5 employees Contingency Recruitment, HR Coaching	No personal experience with AI tools.	5. Laggard
R4	1	Munich, Germany 11 - 50 employees Executive Search, HR Coaching	AI Chatbot (ChatGPT, Perplexity) for content generation (e.g., job descriptions), marketing support, and candidate long-listing research.	1. Innovator
R5	1	Munich, Germany 1 - 5 employees Contingency Recruitment	AI Chatbot for information retrieval and content generation.	3. Early Majority
R6	1	Frankfurt am Main, Germany 50 - 100 employees Temporary work, Contingency Recruitment	Initial exploration of AI applications (cautious experimentation phase)/	4. Late Majority
R7	1	Near Munich, Germany 5 - 10 employees Contingency Recruitment	AI Chatbot (ChatGPT) for marketing content generation (e.g., linkedin posts)/	3. Early Majority
R8	1	Hamburg, Germany 50 - 100 employees Contingency Recruitment	AI Chatbot for content generation (e.g., job descriptions).	3. Early Majority

Recruitment agency (R)	No. of interviews	Headquarter location / Company size / Specialization	AI applications	Innovation adapter group
R9	1	Cologne, Germany 11 - 50 employees Executive search, Temporary work	AI Chatbot for content generation (e.g., job descriptions).	3. Early Majority
R10	2	Near Bonn, Germany 11 - 50 employees Executive Search	AI Chatbot for content generation (e.g., job descriptions, marketing posts).	3. Early Majority
R11	1	Near Dortmund, Germany 100 - 500 employees Temporary work, Contingency Recruitment	deep integration of ai solutions across recruitment processes (advanced adoption).	1. Innovator
R12	1	Munich, Germany 50 - 100 employees Executive Search, Contingency Recruitment	AI Chatbot for content generation (e.g., job descriptions, candidate reports); investment in enterprise ChatGPT.	2. Early Adopter
R13	1	Munich, Germany (German division), Stockholm, Sweden (global headquarter) 100 - 500 employees Executive Search	Self-hosted AI Chatbot for diverse content generation use cases; emphasis on creative AI exploration.	1. Innovator
R14	1	Munich, Germany 1 - 5 employees Executive Search	AI Chatbot (ChatGPT) is used for initial job description drafting; it uses simple AI agents.	3. Early Majority
R15	1	Munich, Germany 11 - 50 employees Executive Search	AI Chatbot (ChatGPT) for general communication and inquiry.	4. Late Majority
R16	2	Hamburg, Germany 100 - 500 employees Executive Search Interim Management	AI Chatbot (ChatGPT); integrated AI features within application tracking system (ATS) – transitioning to AI-enhanced ATS.	1. Innovator
R17	1	Munich, Germany 11 - 50 employees Executive Search, Contingency Recruitment	AI Chatbot (ChatGPT) for content generation.	3. Early Majority
R18	1	Munich, Germany 11 - 50 employees Executive Search	AI Chatbot (ChatGPT, gemini) for content generation.	3. Early Majority
R19	2	Munich, Germany 2 – 10 employees Executive Search	AI Chatbot (ChatGPT); AI-powered translation (DeepL); and AI-assisted interview recording (Microsoft Copilot).	3. Early Majority

3.3. Data Collection

3.3.1. Interview Selection

This study examines the opinions of decision-makers in recruitment agencies to understand their likelihood of implementing AI. To this end, interviews were conducted exclusively with key informants—individuals in roles such as managing directors, partners,

senior recruiters, and board members. According to the organizational buying center framework (Webster & Wind, 1972), decision-making in organizations is distributed among various roles, including deciders, influencers, initiators, and gatekeepers. In this sample, managing directors and board members primarily act as deciders, partners serve as both deciders and influencers, and senior recruiters function as initiators and influencers. This distribution ensures a thorough understanding of the decision-making process regarding AI adoption.

The methodology for reaching out to potential interviewees involved two channels: personal contact and direct email communication between October 4, 2024 and February 14, 2025. For the personal contact channel, I contacted a director from my personal network at an executive search firm, who agreed to share his experience at the recruitment agency. For email outreach, a total of 219 individuals were identified through LinkedIn and company websites using keyword searches such as ‘KI in der Rekrutierung’ and were contacted via email. Twenty-eight responded, and ultimately, interviews were conducted with 18 organizations. This leads to a response rate of 12.7% and a success rate of about 9% based on the first contacts. These contacts were taken from organizations that met the criteria specified in "3.2. Case context and selection criteria.".

Eisenhardt (1989) states that a maximum of 10 cases is ideal for building a theory, while Guest et al. (2006) suggest that at least 12 organizations are needed for structured interviews to reach data saturation. The goal was initially set at 12 organizations, but after additional interest, interviews were conducted with 7 more, making a total of 19 organizations. During data analysis, more questions arose, thus I requested for follow-up interviews. Eight follow-up interviews were requested, with 3 recruiters agreeing to participate, bringing the total number of interviews to 22. I stopped collecting when no new significant topics emerged and patterns became repetitive.

To respect ethical principles and the interviewees’ desire to remain anonymous, I anonymize their names. Instead, I provide information about their organizational affiliations, positions, and years of experience. A detailed list of interviewees is available in Appendix A

3.3.2. Interview Structure & Process

In empirical social research, interviews can vary from fully standardized formats—where both questions and responses are predetermined—to entirely unstructured formats that

facilitate open-ended discussion (Roulston et al., 2003). Semi-structured interviews strike a balance between these extremes and are widely utilized in qualitative research (Kvale, 2007). In this study, the interview guide was created based on the TOE and DOI constructs outlined in Section 2.2, ensuring that questions correspond with the research objectives while remaining flexible enough to capture rich, emergent insights.

The interview process began with an introductory segment. Each participant was welcomed and given an overview of the study's background, research objectives, and interview structure. This aimed to establish a foundation of trust between the interviewer and the interviewee, allowing the interviewees to discuss their impressions and experiences as openly as possible—according to Mayring, "they themselves are initially the experts on their own meanings" (Mayring, 2016). Before proceeding, interviewees were assured that the session would remain anonymous and that their participation would be recorded only with their explicit consent. For those who agreed to be recorded (via Microsoft Teams or Zoom), the sessions were audio-recorded and subsequently transcribed verbatim. Conversely, for interviewees who preferred not to be recorded, detailed meeting notes were taken in bullet-point format. Out of the 22 interviews conducted, 13 were recorded for later transcription, while 9 were documented solely through meeting notes. Most interviews lasted between 20 and 40 minutes duration.

Following the introduction, the interview used guided questions to explore three key areas: technological factors (perceived benefits, integration challenges, cost considerations, and concerns about data security and privacy), organizational factors (internal processes, cultural readiness, and decision-making practices), and environmental factors (market trends, competitive pressures, and regulatory influences). Participants discussed these aspects openly without explicit prompts (Mayring, 2016). The semi-structured format aimed to refocus the conversation on the central topic when digressions occurred (Roulston et al., 2003). Toward the end, respondents identified the three to four most critical factors for successful AI adoption and explained their reasoning to align findings with practical insights. For a list of interview questions, refer to the Appendix B.

3.4. Data Analysis

3.4.1. Transcription and Data Preparation

For interviews conducted via Zoom or Microsoft Teams, I made audio recordings and subsequently transcribed them using Microsoft Word to produce verbatim transcripts with time stamps. I then reviewed each transcript against the original audio and made corrections manually to address grammatical errors, remove typographical mistakes, and clarify ambiguous responses. For participants who declined to be recorded, I made detailed meeting notes in real time. This dual approach ensured that all data, whether from recordings or written notes, were systematically captured and prepared for analysis.

3.4.2. Thematic Coding and Codebook Development

Empirical data collected from the interviews were analyzed using a thematic analysis approach (Braun & Clarke, 2006). The process began with familiarization, during which all interviews—whether transcribed verbatim from recordings or documented through detailed meeting notes—were read repeatedly to immerse oneself in the data and note emerging themes ideas.

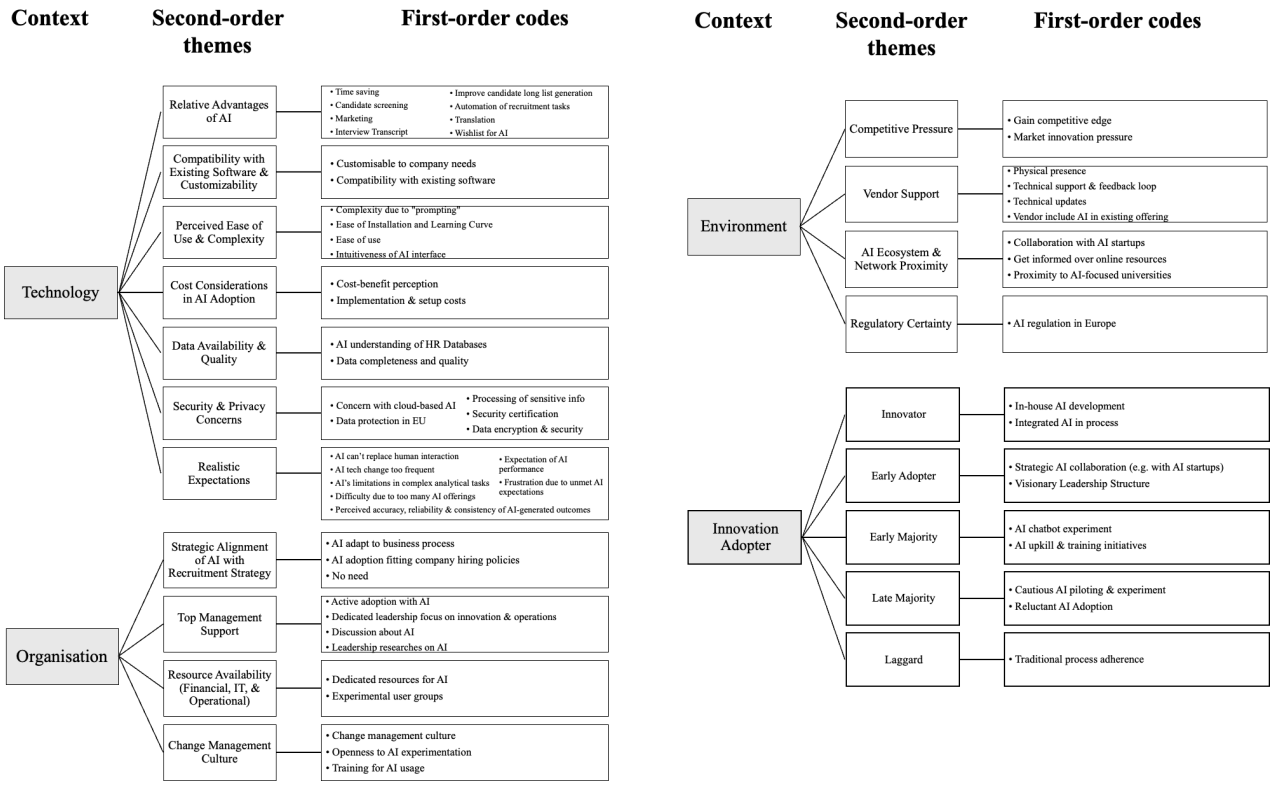
To analyze the qualitative data, all transcripts and meeting notes were imported into Taguette, a qualitative data analysis tool. Initially, the data were segmented into manageable "chunks," and first-order codes were assigned to these segments while preserving the interviewees' original wording. This initial coding stage captured the raw, informant-based data. Using a deductive approach, these first-order codes were organized into second-order themes based on 15 predefined TOE factors as outlined in Section 2.2. A codebook was created to guide this process, ensuring consistency throughout the analysis (refer to Appendix C).

In parallel, the coded data enabled the classification of recruiters into innovation adopter categories (Innovators, Early Adopters, Early Majority, Late Majority, and Laggards) as outlined by Rogers (2003). This thorough coding process allowed for the identification of patterns and nuances in the factors influencing AI adoption.

Figure 2 below provides a visual representation of the thematic analysis process, including the mapping of first-order codes to second-order themes (the associated TOE factors) and contextual details.

Figure 2.

Thematic Analysis of Factors Influencing AI Adoption in Small Recruitment Agencies.



3.4.2. Cross-Case Analysis and Iterative Tabulation

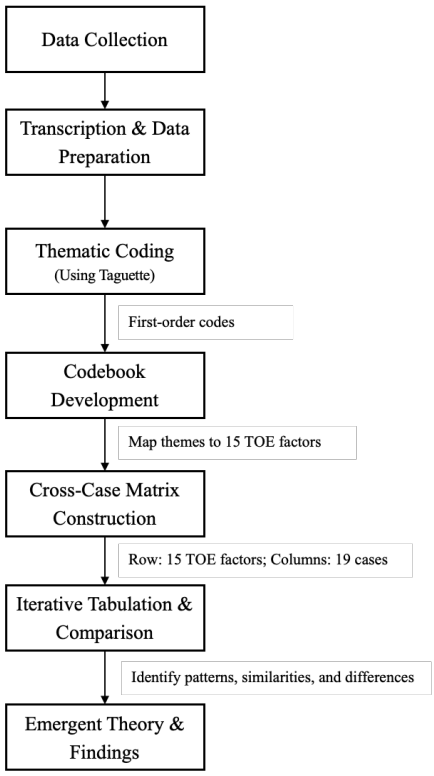
Following the thematic coding process, a cross-case analysis was conducted to identify patterns, similarities, and differences among the 19 organizations. Coded data from each case were organized into a matrix—where rows represent the 15 TOE factors and columns represent individual cases—to facilitate systematic comparison. This iterative tabulation approach, as advocated by Eisenhardt (1989, p. 540), enables dimensions to be drawn from the research problem or existing literature, allowing for continuous refinement of the theoretical model through repeated comparisons and reassessment of each factor's relevance.

Eisenhardt (1989, p. 540) further emphasized, "The key to effective cross-case comparison is by examining the data in various divergent ways," and that "dimensions can be suggested by the research problem or by existing literature." In this context, the study explores AI adoption by structuring comparisons across the 15 TOE factors and the five innovation adoption levels from the DOI framework. This structured approach keeps the iterative tabulation process theoretically grounded while helping to identify emerging patterns.

Figure 3 below offers a schematic overview of the entire cross-case analysis and iterative tabulation process. It illustrates the sequential steps involved: from data collection, transcription, thematic coding, and codebook development to constructing the cross-case matrix and the iterative comparison process. This schematic shows how raw data was structured into a cross-case matrix, ensuring systematic analysis and enhancing the theory's generalizability on AI adoption in recruitment agencies.

Figure 3:

Schematic Overview of Cross-Case Analysis and Iterative Tabulation Process



The resulting matrix (see Table 2 in Chapter 4.1) visually summarizes the prevalence of each factor across organizations and highlights which factors consistently emerge as critical, as well as those that vary according to the innovation adopter categories.

4. Results

4.1. Overview of Case Studies and Initial Findings

Based on the results of the data analysis explained in section 3.4, Tables 2 and 3 below provide a visual summary of AI adoption across 19 recruitment agencies. They display the presence or absence of each TOE factor in the 19 cases. Additionally, each recruitment agency was assigned an innovation adopter group score ranging from 1 to 5 (Innovator, Early Adopter, Early Majority, Late Majority, Laggard), as introduced by Rogers (2003), to capture differences in innovation behavior.

Table 2:

Presence of TOE Factors and Innovation Adoption Groups Across Participating Recruitment Agencies R1 to R10

	R1	**R2**	**R3**	**R4**	**R5**	**R6**	**R7**	**R8**	**R9**	**R10**
Innovation Adapter group (1 - 5)	3	4	5	1	3	4	3	3	3	3
Technological factors										
Relative advantages of AI	X	X		X	X	X	X	X	X	X
Customizability & compatibility with existing software	X	X	X		X		X	X	X	X
Perceived ease of use & complexity	X		X	X					X	
Cost considerations in AI adoption	X	X	X					X		
Data availability and quality						X	X		X	X
Security & privacy concern	X	X	X		X	X	X	X	X	X
Realistic expectation				X	X		X			X
Organizational factors										
Strategic alignment of AI with recruitment strategy									X	X
Top management support		X	X	X		X		X		X
Resource availability		X			X		X			
Change management culture		X			X		X	X	X	X

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
Environmental factors										
Competitive pressure	X		X	X			X	X		
Vendor support	X	X	X		X	X	X	X		X
AI ecosystem & network proximity					X		X		X	
Regulatory certainty					X	X				

Table 3:

Presence of TOE Factors and Innovation Adoption Groups Across Participating Recruitment Agencies R11 to R19

	R11	R12	R13	R14	R15	R16	R17	R18	R19
Innovation Adapter group (1 - 5)	1	2	1	3	4	1	1	3	3
Technological factors									
Relative advantages of AI	X	X	X	X	X	X	X	X	X
Customizability & compatibility with existing software	X	X	X	X	X	X	X		X
Perceived ease of use & complexity	X	X	X	X		X	X		
Cost considerations in AI adoption					X				X
Data availability and quality	X				X				
Security & privacy concern	X	X	X	X	X	X	X	X	X
Organizational factors									
Realistic expectation	X	X		X	X		X	X	X
Strategic alignment of AI with recruitment strategy	X		X	X		X			
Top management support		X	X		X	X	X		X
Resource availability		X	X		X	X	X	X	X
Change management culture	X			X				X	X
Environmental factors									
Competitive pressure		X		X	X	X	X	X	
Vendor support	X	X	X			X	X	X	X
AI ecosystem & network proximity									

	R11	R12	R13	R14	R15	R16	R17	R18	R19
Regulatory certainty	X								

The first analysis indicates that these four factors "Relative Advantages of AI," "Security and Privacy Concerns," "Customizability and Compatibility with Existing Software," and "Vendor Support" are most common among 19 cases. In contrast, environmental factors such as "Regulatory Certainty" and "AI Ecosystem Proximity" occurred less frequently, suggesting that they are perceived to be less important for a successful AI adoption for these recruitment firms. Organizational factors, including “Top Management Support”, “Realistic Expectations”, “Change Management Culture”, and “Resource Availability”, appear with moderate frequency, hinting at their conditional importance depending on the firm’s innovators adopter group. These findings show recurring patterns across different cases.

Following this overview, Section 4.2 examines the factors by category—technological, organizational, and environmental dimensions—to deepen recruiters' perceptions of their importance to AI adoption. Section 4.3 will integrate these findings into a coherent theoretical framework through additional cross-case comparisons and patterns analysis.

4.2. Detailed Analysis of Each Factors

This section provides a detailed analysis of the 15 TOE factors based on the thematic analysis described in Section 3.4. Interview data processed using Taguette were segmented into first-order codes and then organized into each TOE factor that aligns with my codebook. Detailed quotations and narrative insights are used to illustrate each factor, adding depth to my discussion of the technological, organizational, and environmental dimensions that influence AI adoption in recruitment.

4.2.1. Technological Factors

Relative Advantages of AI

Based on interviews, recruiters indicated that artificial intelligence offers several relative advantages that improve their existing recruitment processes. One primary benefit is

the increase productivity. For example, Partner #19 noted: *"If everyone worked a little with AI, we could certainly save ourselves 30-50 minutes a day".*[1]

Another benefit is the ability to draft job descriptions. Here, recruiters expressed that AI tools can generate strong initial drafts, thus providing them a competitive advantage by enabling quicker responses to client needs. Nevertheless, they claimed that human expertise is crucial to complete the final version. For instance, Director #15 stated: *"The AI model of my ATS is there to derive or create job descriptions, and I have used it for fine-tuning job descriptions myself. You can start a job description if you have never done one…".*

AI is also able to streamline target company research by quickly gathering company information data from different sources. While this has substantially reduced the initial effort needed to collect company information, quality issues were noted. For example, Partner #20 remarked, *"I use ChatGPT for researching companies… it is not yet smart enough. We still need human intelligence; it doesn't work automatically."* [2]

The technology also enhances candidate search processes by quickly generating relevant candidate lists. For instance, Senior Manager #16 observed: *"If I am looking for a CFO today, an AI will give me a list of 80-90 relevant candidates in Germany in the future",*[3]

Furthermore, AI assists with interview and administrative tasks by automating transcription and report generation. Here, director #13 remarked: *"If you have 15 to 16 pages of transcripts, then it's good if ChatGPT puts it into clear words - especially in clean German and beautiful language".*[4]

Interestingly, some recruiters believe that AI can reduce human biases in selection processes - such as Senior Manager #21, who remarked: *"AI itself has biases, but they are different from personal biases, which allows for fresh perspectives".*

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[1] This quote is originally in German: "Wenn jeder ein bisschen mit KI arbeitet, können wir uns bestimmt täglich 30–50 Minuten sparen."

[2] Quote is originally in German: "Ich verwende ChatGPT für Recherchen über Unternehmen… dafür ist ChatGPT noch nicht schlau genug. Da brauchen wir noch menschliche Intelligenz, das funktioniert nicht automatisch."

[3] Quote is originally in German: "Wenn ich heute einen CFO suche, wird mir eine KI in Zukunft direkt eine Liste mit 80–90 relevanten Kandidaten in Deutschland geben."

[4] Quote is originally in German: "Wenn Sie so 15 bis 16 Seiten Mitschrift haben, dann ist es natürlich gut, wenn ChatGPT das schon einmal in saubere Worte fasst – vor allem in sauberes Deutsch und eine schöne Sprache."

Finally, AI supports various HR administrative tasks by automating data searches and regulatory compliance checks (Partner #14 and Regional Manager #17).

Overall, recruiters believe AI's relative advantages in recruitment such as enhanced efficiency, improved content generation, streamlined research processes, and reduced administrative tasks, positive influence their decision to adopt AI into their process.

Compatibility with Existing Software & Customizability

Recruiters emphasized that seamless integration with existing systems (e.g., ATS, CRM) is critical for AI adoption. Director #12 said, *"The solution could not be integrated into our applicant management software. And if that is impossible, it is simply not practicable for us."* [5]. Similarly, Director #13 highlighted that integration enables direct access to AI tools: *"AI is already integrated in our project management or candidate management system... I can ultimately call up the AI wizards in every field".* [6]

When systems are updated, recruiters expect AI to follow seamlessly, as expressed by Senior Manager #16: *"Once we change our database, the topic of AI will automatically come with it"* [7]

Equally, customization is essential. AI must adapt to unique operational processes rather than forcing system changes. As Regional Manager #17 explained: *"The vendor customizes the system for us. The system is configured according to our needs".* [8]

In summary, recruiters see AI's customizability and compatibility with their existing IT infrastructure as a prerequisite for their team to adopt it.

Perceived Ease of Use & Complexity

Recruiters perceive how easy or complex AI is to use as a crucial determinant in their decision regarding AI adoption. Interviewees stressed that AI solutions must be intuitive for effective implementation, though real-world deployment can reveal technical challenges. A

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[5] Quote is originally in German: "Die Lösung ließ sich nicht in unsere Bewerbermanagement-Software integrieren. Und wenn das nicht geht, ist es für uns schlicht nicht praktikabel."

[6] Quote is originally in German: "In unserem Projektverwaltungs- oder Kandidatenmanagementsystem ist KI schon integriert... in jedem Feld kann ich letztendlich die KI-Assistenten aufrufen."

[7] Quote is originally in German: "Also wenn wir unsere Datenbank einmal umstellen, dann wird das Thema KI automatisch mitkommen."

[8] Quote is originally in German: "Der Vendor passt das System für uns an. Das System wird entsprechend unserer Bedürfnisse konfiguriert."

key insight was the necessity of an intuitive design that minimizes training needs. As Director #12 explained: "*If the tool is complicated or requires a lot of training, it simply won't be used. So it has to be really intuitive and user-friendly - that often makes all the difference*." [9]

However, systems that appear intuitive often prove technically challenging during setup. Head of Country #9 noted: *"A really good example of this was setting up LLM Studio. That was really frustrating! Simply ... because it was technically totally complicated."* [10]

Effective use of AI also depends on users' ability to formulate precise prompts. Director #13 compared it to a search engine: *"It's like a Google search - if you search well, you'll find everything; if you search badly, you'll find nothing. It's the same with Chat GPT: if you prompt well, you get a good result."* [11]. In the same way, Director #15 added: *"The best engine is worth nothing if you don't prompt it well."*. Support mechanisms such as pre-generated prompts were recommended, as observed by Managing Partner #1: *"Collections of prompts can be helpful."*.

Finally, maintaining a balance between ease of use and human oversight is vital, as Senior Manager #21 stated: *"AI-generated content isn't directly inserted into client-facing work, which is a good thing. This ensures that users remain aware they are utilizing AI-generated content and take the necessary steps to review and refine it."*

These insights suggest that while a user-friendly design is essential, structured support for effective prompting and ongoing human oversight are critical for successful AI adoption.

Cost Considerations in AI Adoption

The interviews revealed that while cost is an important factor, recruiters prioritize functionality, efficiency gains, and ROI when evaluating AI solutions. Investing in AI is driven less by initial cost and more by the anticipated benefits that can justify higher expenditures.

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[9] Quote is originally in German: "Wenn das Tool kompliziert ist oder viele Schulungen braucht, wird es einfach nicht genutzt. Also muss es wirklich intuitiv und benutzerfreundlich sein – das macht oft den entscheidenden Unterschied.."

[10] Quote is originally in German: "Ein wirklich gutes Beispiel dafür war die Einrichtung von LLM Studio. Das war wirklich frustrierend! Einfach … weil es technisch total kompliziert war."

[11] Quote is originally in German: "Es ist wie eine Google-Suche – wenn Sie gut suchen, finden Sie alles; wenn Sie schlecht suchen, finden Sie nichts. Genauso ist es bei Chat GPT: Wer gut promptet, erhält ein gutes Ergebnis."

Director #15 emphasized the value of time savings over mere expense: *"For the costs, it's about how much time you save, or how many individuals you would find that elsewise you would not be able to find."*. A succinct perspective was offered by Partner #10: *"Costs don't matter, as long as the product is good, it would be OK too"*[12]. This view is echoed by Regional Manager #17, who stressed that AI functionalities and benefits outweigh cost considerations:

> *Of course, costs play a role, but functionality is more important. When implementing a solution like this, the decision is not only based on cost but also on functionality and whether you work well with the service provider.* [13]

However, cost sensitivity is notably higher among smaller agencies. The Head of Country #9 pointed out that these agencies must wait for mature, scalable solutions:

> *The big challenge for us medium-sized companies is not to oversleep developments on the one hand, but on the other hand to only make investments when mature products or services are on the market that are also suitable for the size of our own company and offer real added value.*[14]

High licensing fees were also identified as a significant barrier, as stated by Managing Partner #1: *"Costs for licenses (e.g., Microsoft Copilot) are high and do not allow for test phases."* [15]

Overall, these insights indicate that while cost remains a factor, recruiters judge their decision to implement AI by its functionality and potential return on investment.

Data Availability & Quality

Even though only 25% of interviewees mentioned it, recruiters express concern that AI adoption depends on the availability and quality of their database. Since AI is only as effective

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[12] Quote is originally in German: "Kosten ist egal, wenn Produkt gut ist, ist auch OK."

[13] Quote is originally in German: "Natürlich spielen Kosten eine Rolle, aber die Funktionalität ist entscheidender. Wenn man so eine Lösung implementiert, trifft man die Entscheidung nicht nur auf Basis der Kosten, sondern auch nach Funktionalität und ob man mit dem Dienstleister gut arbeitet."

[14] Quote is originally in German: "Die große Herausforderung für uns mittelständische Unternehmen ist es, Entwicklungen einerseits nicht zu verschlafen, andererseits erst dann Investitionen zu tätigen, wenn ausgereifte Produkte oder Dienstleistungen auf dem Markt sind, die dann auch zur eigenen Unternehmensgröße passen und einen wirklichen Mehrwert bieten.."

[15] Quote is originally in German: "Kosten für Lizenzen (z. B. Microsoft Copilot) sind hoch und erlauben keine Testphasen."

as the data it processes, inconsistent data entry and poorly structured databases can severely undermine outcomes.

Director #12 stated regarding data quality: "*An AI is only as good as the data it works with. If the data is poorly structured or we simply don't have enough of it, even the best AI cannot deliver meaningful results."*[16]

While recruiters recognize the significance of data quality in AI implementation, they express concern about the operative challenge that impedes the development of a quality database: *"This is the challenge: we have 10 people on the team, but only three of them work intensively on the database. But the other seven think to themselves: 'I'm not interested.'"* [17]

These insights highlight how recruiters view the importance of having a well-organized and comprehensive dataset for the success of AI implementation in their organization.

Security & Privacy Concerns

Data security and privacy are paramount in AI adoption under strict GDPR requirements. Recruiters emphasize that robust data protection is non-negotiable, given the sensitivity of candidate data. For example, Senior Manager #16 noted: *"Germany is very strict in this respect. Data protection in particular, plays a major role. You are not allowed to do anything that is not permitted - that is very clearly regulated here."* [18]

For larger executive search firms, the reputational risks of data breaches are even more pronounced. As Director #15 explained:

> *So, if something goes wrong here with our little boutique, most likely no one will care or notice. If something goes wrong with the big MNE, it will be blown up by*

[16] Quote is originally in German: "Eine KI ist nur so gut wie die Daten, mit denen sie arbeitet. Wenn die Daten schlecht strukturiert sind oder uns einfach nicht genug vorliegen, kann die beste KI keine sinnvollen Ergebnisse liefern"

[17] Quote is originally in German: "Wir sind zum Beispiel 10 Leute im Team. Drei kümmern sich intensiv um die Datenbank. Aber die anderen sieben denken sich: 'Interessiert mich nicht.'"

[18] Quote is originally in German: "Deutschland ist in dieser Hinsicht sehr streng. Gerade Datenschutz spielt eine große Rolle. Man darf nichts machen, was nicht erlaubt ist – das ist hier ganz klar geregelt."

the media. Therefore, for bigger executive searches, I guess beyond GDPR, the data protection to leakage is extremely important.

Many firms opt for private, localized AI solutions to mitigate these risks. Director #13 stated: "*No, because we use our own entity, data protection is not an issue. You must have your own entity that is hosted in Germany*." [19]

Furthermore, compliance is a strict prerequisite. Director #12 emphasized: *"It is essential that the AI processes our sensitive data correctly and securely. After all, we work with applicants' personal information - you can't afford to make mistakes."* [20]

These insights show that recruiters perceive data protection as extremely important for their decisions to implement and adopt AI.

Realistic Expectation of AI Performance & Limitations

Realistic expectations regarding AI performance and shortcomings in recruitment emerged as a key theme. While AI improves efficiency and automates routine tasks, recruiters consistently stressed its limitations in areas requiring human judgment, such as deep candidate evaluation and soft skills assessment. Interviewees agreed that AI should support rather than replace human expertise. Senior Manager #16 stated: *"But in the actual business - the personal conversation, the interaction - I'm not sure whether AI wouldn't be more of a hindrance there."* [21]

Director #18 further emphasized AI's current limitations in evaluating human qualities: *"Anything that has to do with the judgement of humans, I think AI is having a tough time with that."* [22]

Accuracy issues also emerged as a barrier to full trust in AI tools. Director #18 noted the low precision of AI-generated recommendations: *"The correct rate is a maximum of 50 %.*

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[19] Quote is originally in German: "Nein, weil wir eine eigene Instanz nutzen, sodass Datenschutz kein Problem ist. Sie müssen eine eigene Entität haben, die in Deutschland gehostet wird"

[20] Quote is originally in German: "Es ist superwichtig, dass die KI unsere sensiblen Daten korrekt und sicher verarbeitet. Schließlich arbeiten wir mit persönlichen Informationen von Bewerbenden – da kann man sich keine Fehler leisten"

[21] Quote is originally in German: "Aber im eigentlichen Geschäft – dem persönlichen Gespräch, dem Interagieren – da bin ich mir nicht sicher, ob KI da nicht eher hinderlich wäre"

[22] Quote is originally in German: "Alles, was wirklich mit der Beurteilung von Menschen zu tun hat, da tut sich die KI meiner Meinung nach sehr schwer. Im gesamten Suchprozess sehe ich die KI noch nicht so weit, dass sie wirklich eine ernsthafte Konkurrenz für uns ist oder alles Menschliche ersetzen könnte"

Many results are not relevant or do not fit."[23] Partner #20 underscored the necessity for human oversight: *"I do not accept generated texts unfiltered, but check everything with my expertise."* [24]

These insights reveal that while recruiters are enthusiastic about AI's potential, some recognize its limitations in accuracy and reliability and believe that AI is not yet capable of completely replacing human judgment.

4.2.2. Organizational factors

Strategic Alignment of AI with Recruitment Strategy

Although fewer participants explicitly mentioned strategic alignment, interviews underscored its importance for successful AI adoption. Two themes emerged: AI as a strategic asset integrated into business processes and AI as an operational tool enhancing existing workflows.

Several participants advocated AI as a strategic asset. As Director #15 explained:

> *If the AI solution can have a big impact on the process, then I think every general manager should be able to adopt the process around a certain tool, if that is needed, so that the tool can enable the company to be more successful than before… If the processes are rotten, what's the benefit of a perfect AI that you trim down and limit to a rotten process?*

In contrast, some interviewees emphasized maintaining existing processes with AI as an efficiency enhancer. Head of Country #9 noted: *"You first have to identify which use cases are really relevant. In other words, what do you want to use AI for? And then see which tool fits best."* [25]

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[23] Quote is originally in German: "Die Trefferquote liegt bei maximal 50 %. Viele Ergebnisse sind nicht relevant oder passen nicht"

[24] Quote is originally in German: "Ich übernehme keine Texte ungefiltert, sondern überprüfe alles mit meinem Fachwissen"

[25] Quote is originally in German: "man muss erstmal identifizieren, welche Use Cases wirklich relevant sind. Also … wofür man die KI überhaupt einsetzen will. Und dann schauen, ja, welches Tool da am besten passt"

Both viewpoints demonstrate recruiters' belief that aligning AI with their strategic objectives—whether for business transformation or operational enhancement—is critical for its successful adoption in their organization.

Top Management Support

Top management support is critical for successful AI adoption. Leaders recognize AI's strategic value and drive its integration through decisive actions and proactive engagement.

Several interviewees emphasized that AI initiatives stem from the highest levels of the organization. For example, Director #6 stated that top management will absolutely make decisions in AI. Similarly, Director #13 noted the top-level impetus: "*Ultimately, the initiative came from the shareholder level*."[26] Regional Manager #8 described a decision-making process involving a management committee across locations, underscoring centralized control.

Active engagement is equally important. Senior Manager #16 highlighted that AI is firmly on the roadmap of their leadership, supported by dedicated advisory boards. Partner #14 further explained that top figures, including the CEO, are actively involved in strategic discussions: *"We address the question of what we must, can, and want to do to remain at the forefront of development and utilise modern, contemporary solutions."* [27]

Director #13 believes management should proactively acquire knowledge about AI:

> *Following the technical development and watching videos on Linkedin, or web sessions where you learn how AI works better, you can simply learn by doing. That's the most important thing. Simply trying things out is always good.* [28]

These insights reveal that recruiters view top management's awareness, decisive role, and involvement as essential for aligning AI initiatives with business strategy and enhancing successful adoption outcomes.

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[26] Quote is originally in German: “Letztendlich kam die Initiative tatsächlich aus der Gesellschafterebene”

[27] Quote is originally in German: “beschäftigen sich mit der Frage, was wir tun müssen, können und wollen, um an der Spitze der Entwicklung zu bleiben und moderne, zeitgemäße Lösungen zu nutzen.”

[28] Quote is originally in German: “Die technische Entwicklung folgend und von Linkedin irgendwelchen Videos angucken, bis zu irgendwelchen Web Sessions, wo man lernt, wie KI besser funktioniert, und dann einfach learning by doing. Das ist das Wichtigste, glaube ich. Einfach ausprobieren, das ist immer gut”

Resource Availability

Resource availability is crucial for successful AI adoption, relying on dedicated financial investment, operational support, and specialized IT expertise.

Financial and operational support are essential to fund training, infrastructure, and the formation of dedicated teams. For instance, Partner #2 emphasized the comprehensive need for resources for the pilot and the implementation phase. Director #13 highlighted the value of tech-savvy personnel: "*We have 2 to 3 employees who have an affinity for technology and run experiments*".[29]

In addition, Partner #19 explained that a dedicated AI task force accelerates learning: "*We have set up a task force with colleagues who are interested in AI, are working with it and are trying out new applications. We are looking at what works well in our job and where things are not yet optimal.*" [30]

IT expertise is equally vital. Head of Country #9 stressed the importance of having specialists for effective AI tool usage: *"An IT team with real prompt experts is super important. Because the right 'prompting' is not that easy… it's a real challenge for many employees."* [31]

These findings illustrate recruiters' perceptions that organizations with financial backing, suitable operational frameworks, and specialized IT capabilities are better equipped to integrate AI effectively into their recruitment processes.

Change Management Culture

A robust change management culture is essential for AI adoption. Organizations must address resistance, implement change gradually, leverage early adopters, and invest in training.

Employees often fear change and are hesitant to adopt new technologies. Partner #10

[29] Quote is originally in German: "Wir haben 2 bis 3 Mitarbeiter, die technisch affin sind und run experimentieren"

[30] Quote is originally in German: "Wir haben eine Taskforce gegründet mit Kolleg:innen, die KI-affin sind, sich damit beschäftigen und neue Anwendungen ausprobieren. Wir schauen, was in unserem Job gut funktioniert und wo es derzeit noch nicht optimal ist"

[31] Quote is originally in German: "IT-Team mit echten Prompt-Experten ist super wichtig. Weil, ähm, ja … das richtige ‚Prompten', das ist gar nicht so einfach! Also wirklich nicht, das ist eine echte Herausforderung für viele Mitarbeitende"

stressed a supportive culture: *"A prevailing change management culture is necessary so that employees are not afraid of AI."* [32] Director #12 further observed:

> *The most important thing is a good change management culture. If the employees don't go along, even the best technology won't do us any good. People need to understand why we use AI and how it makes their work easier - otherwise it's just theory.* [33]

Some recruiters also suggest that a gradual rollout of AI initiatives can minimize disruption and allow for iteration improvements. Director #5 and Regional Manager #8 recommended a phased implementation, from pilot projects to test phase to staged roll-out. This phased approach enables organizations to refine processes based on real-time feedback.

Successful adoption often starts with key advocates who drive enthusiasm from within. Regional Manager #17 emphasized building a network of key users. Director #13 noted the benefit of having tech-savvy employees who experiment with different AI solutions. Similarly, Senior Manager #21 advised: *"First, don't force AI on people. Identify the ones who are curious about it and let their enthusiasm drive adoption. Their positive experiences will naturally encourage others".*

Empowering employees through targeted training is crucial. Senior Manager #21 and Partner #14 further emphasized hands-on learning and formal certification processes, ensuring that staff can integrate AI into their workflows. Director #13 highlighted internal efforts: *"We primarily offer internal training, especially prompting training. So, how can you prompt properly?"* [34]

These insights illustrate recruiters' belief in organizational changes as a critical factor for successful AI adoption, such as addressing resistance, adopting a phased approach, leveraging early adopters, and prioritizing training.

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[32] Quote is originally in German: "Daher ist eine vorherrschende Change-Management-Kultur notwendig, damit die Mitarbeiter keine Angst vor KI hätten."

[33] Quote is originally in German: "Ich würde sagen, das Wichtigste ist eine gute Change-Management-Kultur. Wenn die Mitarbeitenden nicht mitziehen, bringt uns die beste Technologie nichts. Die Leute müssen verstehen, warum wir KI einsetzen und wie sie ihnen die Arbeit erleichtert – sonst bleibt es bei der Theorie"

[34] Quote is originally in German: "Wir bieten in erster Linie interne Schulungen an, vor allem Prompting-Schulungen. Also, wie kann man richtig prompten"

4.2.3. Environmental factors

Competitive Pressure

Competitive pressure is a key driver for AI adoption in recruitment agencies as firms strive to maintain market positioning through enhanced speed and innovation.

Several participants emphasized that rapid talent identification is crucial. Director #13 noted: *"Definitely - at least in the middle management segment. Less so in the executive segment, but we are gaining speed in the middle management segment as a result."* [35] Senior Manager #16 highlighted the strategic advantage of speed: *"It's mainly about speed - an AI can generate candidates much faster than manual searches... This speed makes the difference because you often need a lot of time to identify and approach people in the first place."* [36]

Staying ahead of technological advancements is seen as essential. Director #15 remarked: *"You should not miss disruption potential, because suddenly you feel squeezed out of the market, and you haven't even realized it yet, and it goes quickly these days".*

These insights show that recruiters feel compelled to adopt AI in order to respond more quickly to market demands and enhance their competitiveness.

Vendor Support

Vendor support is critical for successful AI adoption in recruitment agencies, especially during the initial phases. Interviewees emphasized that ongoing assistance, customization, and training are indispensable. For instance, Senior Manager #16 noted: "*Vendor support is very important, especially in the first two to three years. When someone sells me an AI solution, I don't assume that everything will work perfectly immediately. You need intensive training and customization."* [37] Partner #19 reinforced this view by highlighting the security of having a reliable contact*: "If you decide in favor of a specific*

[35] Quote is originally in German: "Definitiv – zumindest im Mittelmanagement-Segment. Im Executive-Bereich eher weniger, aber im Mittelmanagement-Bereich gewinnen wir dadurch an Geschwindigkeit."
[36] Quote is originally in German: "Da geht es hauptsächlich um Schnelligkeit – eine KI kann Kandidaten viel schneller generieren als manuelle Recherchen… Diese Geschwindigkeit macht den Unterschied, denn heute braucht man oft viel Zeit, um diese Leute erst zu identifizieren und anzusprechen."
[37] Quote is originally in German: "Gerade in den ersten zwei bis drei Jahren ist Anbieter-Support sehr wichtig. Wenn mir jemand eine KI-Lösung verkauft, gehe ich nicht davon aus, dass alles sofort perfekt funktioniert. Da braucht man intensive Schulungen und Anpassungen."

solution, it is, of course, a security aspect that you have someone you can contact in an emergency. Good support is helpful for any software". [38]

Vendor-led training also plays a key role in overcoming employee resistance. Partner #2 stated "*Schulungen sind nötig, um Ängste bei Mitarbeitenden abzubauen*."

Adaptability is another valued aspect. Regional Manager #17 explained: *"Our process remains largely as it is, but the supplier customizes the system for us. There are many additional possibilities, e.g. better communication with customers, better reporting tools."* [39]

Beyond the initial setup, ongoing vendor support is vital. Partner #14 noted: *"Vendor team not only takes care of updates and bug fixes for our IT systems, but also of further developments and upgrades."* [40]

These insights underscore the recruiters' perspective that vendor support—including tailored training, adaptable solutions, and continuous development—is essential for bridging the gap between AI technology and practical business needs.

AI Ecosystem & Network Proximity

Although mentioned by fewer participants, the AI ecosystem and network proximity still hold value for recruitment agencies because they facilitate access to AI expertise and innovation. Some recruiters see clear benefits in forming external partnerships with universities and startups to stay ahead of technological developments. For example, Director #12 explained: *"We also work together with the University of Osnabrück, more precisely with a startup from their environment... This cooperation with AI startups has given us excellent insights and we would like to expand this in the future."* [41]

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[38] Quote is originally in German: "Aber wenn man sich für eine konkrete Lösung entscheidet, ist es natürlich ein Sicherheitsaspekt, dass man im Notfall jemanden hat, den man kontaktieren kann. Ein guter Support ist für jede Software hilfreich."

[39] Quote is originally in German: "Unser Prozess bleibt größtenteils wie er ist, aber der Lieferant passt das System für uns an. Es gibt viele zusätzliche Möglichkeiten, z. B. besser mit Kunden zu kommunizieren, bessere Reporting-Tools."

[40] Quote is originally in German: "Vendor-Team kümmert sich natürlich nicht nur um Updates und Bugfixes unserer IT-Systeme, sondern auch um Weiterentwicklungen und Upgrades."

[41] Quote is originally in German: "Außerdem arbeiten wir mit der Uni Osnabrück zusammen, genauer gesagt mit einem Startup aus deren Umfeld… Diese Zusammenarbeit mit KI-Startups hat uns wirklich gute Einblicke gegeben, und wir würden das in Zukunft gerne weiter ausbauen."

Director #13 highlighted a more self-directed approach, emphasizing informal engagement through online content and networking: *"Following the technical development and watching any videos from Linkedin to any web sessions where you learn how AI works better, and then simply learning by doing."* [42]

This "learning by doing" mindset shows that the benefits of an AI ecosystem extend beyond formal collaborations to include continuous experimentation and self-improvement.

Regulatory Certainty

Only a few recruiters (3 out of 19) mentioned regulatory certainty as a factor, and their focus was on data privacy rather than on regulatory frameworks themselves. While the impending EU AI Act is acknowledged, it does not appear to alter AI adoption strategies.

Director VL remarked: *"Not in my personal mind, but in the company, of course, this is being discussed."* Similarly, Senior Manager #21 emphasized that data privacy remains the top priority, noting: *"We are monitoring developments, but data privacy has always been a top priority for us. Since our AI does not make decisions but instead organizes and processes data for human review, we don't expect major disruptions."*

These insights suggest that, despite emerging regulations, recruiters are more concerned with safeguarding sensitive data than with the specifics of new AI regulations.

4.3 Cross-case Analysis and Synthesis

4.3.1 Overall Factor Importance

The importance of each factor was classified according to its frequency of occurrence in the case studies. Drawing on the replication logic discussed by Eisenhardt (1989) and Yin (2009), factors that appear in at least 67% of cases are labeled as the most influential since they consistently impact AI adoption success. Factors occurring in 34–67% of cases are viewed as having a moderate, context-dependent effect on AI adoption, indicating that their impact varies from one organization to another. Lastly, factors observed in fewer than 33% of

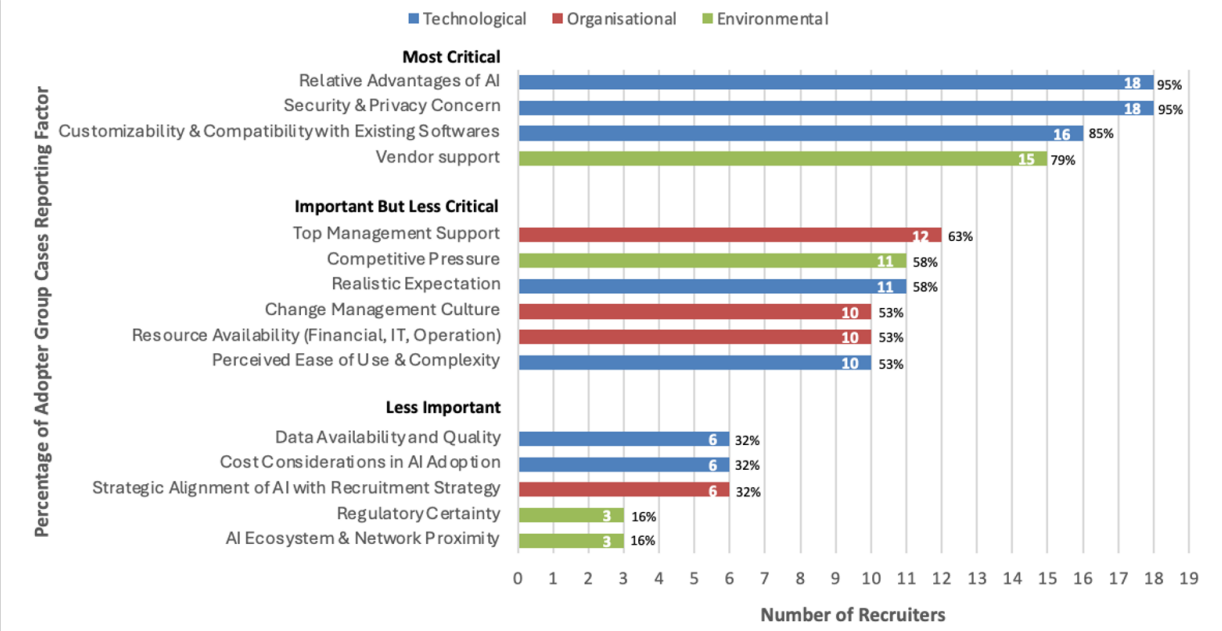
[42] Quote is originally in German: "Die technische Entwicklung folgend und von Linkedin irgendwelchen Videos angucken, bis zu irgendwelchen Web Sessions, wo man lernt, wie KI besser funktioniert, und dann einfach learning by doing."

cases are categorized as less important because they appear only sporadically and do not form a systematic pattern.

Applying this classification, the analysis highlights the “Relative Advantages of AI”, “Security & Privacy Concerns”, “Customizability & Compatibility with Existing Software”, and “Vendor Support” as the most influential factors in AI adoption.

Figure 4:

Key factors influencing AI adoption in recruitment: insights from all interviews (n = 19)

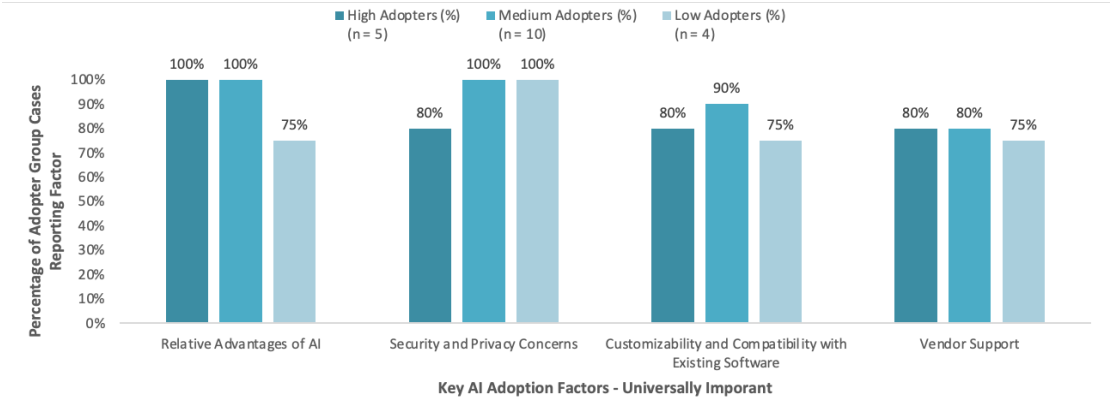


4.3.2 Innovation Adopter Groups Comparisons

In the analysis of innovation adopter groups, the 19 organizations were classified into three categories: High Adopters (Innovators and Early Adopters, n = 5), Medium Adopters (Early Majority, n = 10), and Low Adopters (Late Majority and Laggards, n = 4). The analysis revealed the four critical factors mentioned in section 4.3.1 — “Relative Advantages of AI,” “Security and Privacy Concerns,” “Customizability and Compatibility with Existing Software,” and “Vendor Support” — were consistently present across all groups.

Figure 5:

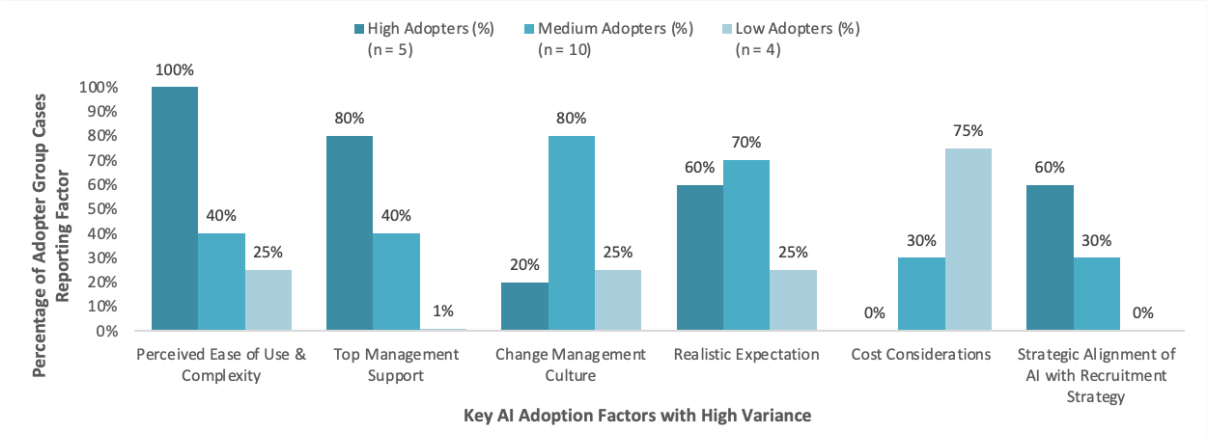
Key factors that are universally important (>66% across all innovation adopter groups)



However, distinct patterns emerged when examining additional factors within each group. In the High Adopter category, nearly all cases reported a strong focus on "Perceived Ease of Use" and "Top Management Support," with no recorded concern for "Cost Considerations." In contrast, Medium Adopters exhibited a predominant emphasis on an effective "Change Management Culture" and realistic expectation-setting, along with moderate sensitivity to costs. Among Low Adopters, the data indicate a high frequency of reported "Top Management Support" and significant "Cost Consideration," while "Strategic Alignment with Strategy" was noted infrequently.

Figure 6:

Key factors with the highest variance across innovation adopter groups



4.3.4. Empirical Validation of Critical AI Adoption Factors

Based on the cross-case analysis, the empirical evidence for the four hypotheses is presented as follows. For H1, which posits that "Relative Advantages of AI" are critical for adoption, the data show that this factor was observed in 95% of the cases, confirming its

importance. For H2, concerning “Security and Privacy Concerns," the evidence indicates that this factor was present in 95% of the cases, thereby supporting the hypothesis. Regarding H3, which states that “Top Management Support” is essential, the factor was identified in only 63% of the cases; thus, the result refutes the hypothesis that it is one of the most crucial factors. Lastly, H4, which suggests that “Vendor Support” is critical for overcoming internal resource limitations, is backed by its occurrence in 79% of the cases.

In summary, the empirical findings confirm the essential role of these four factors—“Relative Advantages of AI,” “Security and Privacy Concerns,” “Customizability and Compatibility with Existing Software,” and “Vendor Support”—as universal prerequisites for the successful adoption of AI in small-to-medium recruitment agencies, while the evidence for “Top Management Support” is not as strong.

5. Discussion - Success Factors for AI Adoption & Practical Implications

5.1. Summarizing the Key Findings

The empirical analysis of 19 recruitment agencies reveals a core set of factors that consistently support successful AI adoption in small to medium-sized recruitment agencies. The factors "Relative Advantages of AI," “Security and Privacy Concerns," “Customizability and Compatibility with Existing Software," and “Vendor Support” emerged as universal prerequisites, regardless of the organization’s level of innovation maturity.

Additionally, the study identified distinct patterns across various innovation adoption categories, as Rogers (2003) defined. Innovators and Early Adopters emphasize "Perceived Ease of Use," “Strategic Alignment," and strong “Top Management Support," while the Early Majority prioritize “Change Management Culture” and “Realistic Expectations of AI Performance and Limitations." Conversely, the Late Majority and Laggards exhibit heightened sensitivity to “Cost Considerations” and “Top Management Support”.

5.2. Theoretical Contribution

This study makes several critical theoretical contributions by integrating and extending the established TOE and DOI frameworks within the context of AI adoption in small recruitment agencies in Germany.

Building on the TOE framework, the findings identify four critical factors recruiters perceive as essential for successful AI adoption. First, the results robustly confirm that the perceived “Relative Advantages of AI” is one of the most decisive factors driving AI adoption, echoing previous research on the relative advantages of innovations (Rogers, 2003; Pillai & Sivathanu, 2020). Without recognizing the tangible benefits of AI, recruitment agencies are unlikely to initiate AI projects. Additionally, “Security & Privacy Concerns” emerge as a crucial factor in AI adoption for talent acquisition, corroborating findings by van Esch et al. (2019). While prior studies have underscored the significance of data system integration (Gusain et al., 2024; Chatterjee et al., 2021), this study uniquely positions “Customizability & Compatibility with Existing Software” as non-negotiable for ensuring seamless integration of AI tools. Furthermore, the analysis validates Vendor Support as a critical environmental factor. Previous literature (e.g., Chen et al., 2021; Pillai & Sivathanu, 2020) has noted the role of external partnerships.

By including DOI's adopter categorization (Rogers, 2003) in my analysis, this study also extends the TOE framework by demonstrating how the significance of these factors evolves along the innovation adoption continuum. Analyzing organizations across the five adopter stages—innovator, early adopter, early majority, late majority, and laggard—shows that as organizations become more prepared for new innovations, the focus on specific factors changes. This finding urges researchers to reevaluate the significance of certain TOE factors in environments where technologies like AI are advancing rapidly.

5.3. Practical Contribution

For Recruiters

First, strong security and privacy measures are essential, given the sensitive nature of candidate data. AI solutions must comply with GDPR and, importantly, the EU AI Act. While many recruiters did not consider the EU AI Act to be significant, its impact on candidate profiling is substantial. In the recruitment process, AI systems are often used to profile individuals by assessing work performance, economic status, health, personal preferences, interests, reliability, behavior, location, and movement (European Commission, n.d.-a). According to the Act's provisions, such systems are automatically categorized as high risk because they directly impact fundamental rights and can significantly influence individuals' lives, making strict compliance crucial to mitigate legal and reputational risks (European Commission n.d.-a).

Secondly, setting the right expectations about AI benefits and limitations is crucial. Recruiters who have successfully implemented AI see it as a powerful support tool, but not a replacement for the vital human connection in recruiting. Therefore, having an awareness of AI's limitations to set a realistic expectations of AI contribution is key, a view shared by Parasuraman et al. (2000).

Third, support for change management is essential. Organizations should address employee resistance and fear of change by ensuring that AI is seen as a support tool rather than a threat, reflecting the findings of Fountaine et al. (2019). This can be accomplished through a phased, iterative implementation approach, along with targeted training sessions. Furthermore, identifying and empowering early adopters to act as internal AI champions can facilitate a smoother adoption process and nurture an innovative culture of innovation—consistent with the findings of von Richthofen et al. (2022).

Lastly, strong support from top management is essential. Leadership must actively establish a strategic vision for how AI can help their business gain competitiveness, aligning with Ren's (2019) perspective. Their commitment is crucial in facilitating successful adoption, as Jöhnk et al. (2021) and von Richthofen et al. (2022) emphasized.

For AI Vendors

The findings suggest a strategic focus on showcasing the relative advantages of AI via clear, business-oriented value propositions instead of intricate technical details. Vendors should prioritize developing robust security and privacy features and ensure their solutions comply with relevant regulations, which can be further validated through industry certifications. Equally important is ensuring compatibility with existing technology infrastructures to facilitate seamless integration with recruitment software, as suggested by Hamm and Klesel (2021). Securing support from upper management via targeted workshops and leadership training is essential, as early leadership involvement has proven to be a key catalyst for successful adoption (Jöhnk et al., 2021; von Richthofen et al., 2022).

Additionally, vendors should tailor their product offerings to meet the specific needs of different adopter groups: for early adopters, they should focus on intuitive interfaces and innovative functionalities that support rapid competitive positioning; for late majority and laggard adopters, the emphasis should be on cost-effectiveness, comprehensive change management support, and vendor-assisted implementation.

Finally, vendors must be cognizant of regulatory requirements, such as those imposed by the EU AI Act, and ensure that their solutions are designed to meet high-risk classifications, particularly in candidate profiling (European Commission, n.d.-a).

5.4. Limitations and Future Research

5.4.1. Sample Size and Generalizability

A primary limitation of this study is the relatively small sample size of 19 cases, which may constrain the generalizability of the findings beyond the examined recruitment agencies. In particular, the “Early Adopter” and “Laggard” adoption categories are represented by only one organization each. Furthermore, there is an inherent bias in the sample, as the companies that agreed to be interviewed already exhibited a positive attitude towards AI adoption, thereby skewing the sample towards more innovative organizations. In addition, with 12 out

of 19 interviewees holding Director-level positions (see Appendix B for the full interview list), their perspectives on top management support may be biased compared to those from other hierarchical levels. These sample limitations suggest that the identified patterns may not fully capture the diversity of experiences.

Moreover, as the study primarily relies on qualitative data gathered through interviews, the findings could be strengthened by incorporating additional data sources, such as surveys or archival records, to further validate and refine the constructs. As Eisenhardt (1989) emphasized, hypothesis development benefits from constantly comparing evidence from diverse sources, thereby sharpening construct definitions and enhancing generalizability.

5.4.2. Potential Biases in Qualitative Research

Qualitative research, by its nature, is subject to interviewee subjectivity and the researcher's interpretative influence during thematic coding. While steps were taken to mitigate these biases—such as employing cross-case validation and iterative coding—some degree of bias may remain. The iterative process used to refine themes aimed to enhance construct validity; however, it cannot completely eliminate the interpretative nuances inherent in qualitative analysis (Braun & Clarke, 2006). Recognizing these limitations is essential for contextualizing the findings and guiding future research.

5.4.3. Recommendations for Future Research

Future studies should aim to increase the sample size to encompass a broader range of recruitment agencies, especially among underrepresented innovation adopter groups, to enhance the robustness and generalizability of the findings. Longitudinal research is advised to investigate how the critical factors interact and evolve over time during the AI adoption process. Furthermore, additional research could explore AI-specific factors beyond the traditional TOE framework and the dynamic inter-factor relationships that shape organizational readiness. Combining quantitative methods, such as surveys, with qualitative insights could provide a more comprehensive understanding of the adoption process and address the limitations inherent in a single-method study (Eisenhardt, 1989; Yin., 2009).

5. Conclusion

This study identifies four critical factors that influence the successful adoption of artificial intelligence in small to medium-sized German recruitment agencies: the relative advantages of AI, strong security and privacy measures, compatibility with existing software (including customizability), and effective vendor support. The findings reveal that these factors consistently shape decision-makers' expectations and strategies. Notably, while all agencies recognize these key elements, early adopters tend to emphasize perceived ease of use and strong leadership support, whereas later adopters are more cautious, prioritizing cost considerations and a strong change management culture. This can serve as a blueprint for recruitment agencies in planning effective AI implementation integration.

The findings have significant implications for recruitment agencies and AI solution providers. Agencies are encouraged to strategically invest in AI technologies that clearly demonstrate operational benefits and align with existing systems, while vendors should customize their offerings to address security concerns and provide robust support services. Ultimately, a focused approach to AI adoption - by prioritizing the key factors - offers a promising pathway for recruitment agencies to achieve both operational excellence and competitive edge.

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Appendices

Appendix A: Interview participants

Identification	Interview Date	Verbatim transcript or note	Recruitment agency (R)	No. of interviews	Headquarter location / Company size / Specialization	Innovation adapter group
Managing Partner #1	12.12.2024	Notes	R1	1	Near Cologne, Germany 5 - 10 employees Contingency Recruitment	3. Early Majority
Partner #2	16.12.2024	Notes	R2	1	Near Munich, Germany 5 - 10 employees Interim Management, HR Coaching	4. Late Majority
Director #3	19.12.2024	Notes	R3	1	Munich, Germany 1 - 5 employees Contingency Recruitment, HR Coaching	5. Laggard
Regional Director #4	08.01.2025	Notes	R4	1	Munich, Germany 11 - 50 employees Executive Search, HR Coaching	1. Innovator
Director #5	13.01.2025	Notes	R5	1	Munich, Germany 1 - 5 employees Contingency Recruitment	3. Early Majority
Director #6	15.01.2025	Notes	R6	1	Frankfurt am Main, Germany 50 - 100 employees Temporary work, Contingency Recruitment	4. Late Majority
Director #7	22.01.2025	Notes	R7	1	Near Munich, Germany 5 - 10 employees Contingency Recruitment	3. Early Majority
Regional Manager #8	17.01.2025	Notes	R8	1	Hamburg, Germany 50 - 100 employees Contingency Recruitment	3. Early Majority
Head of Country #9	22.01.2025	Transcript	R9	1	Cologne, Germany 11 - 50 employees Executive search, Temporary work	3. Early Majority
Partner #10	24.01.2025	Notes	R10	1	Near Bonn, Germany 11 - 50 employees Executive Search	3. Early Majority
Director #11	17.03.2025	Transcript	R10	1		
Director #12	03.02.2025	Transcript	R11	1	Near Dortmund, Germany 100 - 500 employees Temporary work, Contingency Recruitment	1. Innovator
Director #13	12.02.2025	Transcript	R12	1	Munich, Germany 50 - 100 employees Executive Search, Contingency Recruitment	2. Early Adopter

Identification	Interview Date	Verbatim transcript or note	Recruitment agency (R)	No. of interviews	Headquarter location / Company size / Specialization	Innovation adapter group
Partner #14	13.02.2024	Transcript	R13	1	Munich, Germany (German division), Stockholm, Schweden (global headquarter) 100 - 500 employees Executive Search	1. Innovator
Director #15	11.02.2025	Transcript	R14	1	Munich, Germany 1 - 5 employees Executive Search	3. Early Majority
Manager #16	13.02.2025	Transcript	R15	1	Munich, Germany 11 - 50 employees Executive Search	4. Late Majority
Manager #17	17.02.2025 05.03.2025	Transcript	R16	2	Hamburg, Germany 100 - 500 employees Executive Search Interim Management	1. Innovator
Director #18	21.02.2025	Transcript	R17	1	Munich, Germany 11 - 50 employees Executive Search, Contingency Recruitment	3. Early Majority
Partner #19	23.02.2025	Transcript	R18	1	Munich, Germany 11 - 50 employees Executive Search	3. Early Majority
Partner #20	18.02.2025 19.02.2025	Transcript	R19	2	Munich, Germany 2 – 10 employees Executive Search	3. Early Majority
Senior Manager #21	17.02.2025	Transcript	Organisation not included, too large for the research	1	Chicago, the USA 1000 employees Executive Search	-

Appendix B: Semi-structured Interview Questions

Focus	Question (English translation)	Question (German)
Qualification question	**Have you or your team already used AI tools or software? If so, which ones?**	**Haben Sie oder Ihr Team von Bollmann Executives schon KI-Tools oder Software genutzt? Wenn ja, welche?**
Challenges	**Were there any challenges when you introduced AI tools? What was particularly difficult at the beginning?**	**Gab es Herausforderungen, als KI-Tools bei Ihnen eingeführt wurden? Was war am Anfang besonders schwierig?**
Technological factors	**In your experience, what makes a new technology, like AI, practical or impractical for use in your recruitment agencies?**	**Aus Ihrer Erfahrung, was macht eine neue Technologie wie KI praktisch oder unpraktisch für den Einsatz in Personalagenturen?**

Focus	Question (English translation)	Question (German)
	Targeted factors: Relative advantages, compatibility, ease of use, complexity, and realistic expectations.	
	Have you ever faced challenges where AI or other software didn't integrate well with your existing software or workflows? Targeted factors: Compatibility with existing software, customizability, and data availability/quality.	**Hatten Sie schon einmal Schwierigkeiten, dass ein technologisches Tool nicht gut in Ihre bestehenden Systeme oder Arbeitsabläufe passte? Wie sind Sie damit umgegangen?**
	When considering implementing AI, how do factors like cost, data security, or privacy concerns affect your decision-making process? Targeted factors: Cost considerations, security & privacy concerns, and data availability/quality.	**Wie beeinflussen Faktoren wie Kosten, Datensicherheit oder Datenschutz Ihre Entscheidungen, KI einzuführen?**
Organizational factors	**From your perspective, what does it take for your company to effectively adapt to new technologies like AI? Are there any internal processes or cultural traits that help with that?** Targeted factors: Change management culture, strategic alignment, and resource availability.	**Was braucht es aus Ihrer Sicht, damit sich Ihr Unternehmen effektiv an neue Technologien wie KI anpassen kann? Gibt es interne Prozesse oder kulturelle Merkmale, die dabei helfen?**
	How are decisions about adopting new technologies, like AI, typically made in your company? Who plays the most crucial role in these decisions? Targeted factors: Top management support, strategic alignment, organizational decision-making dynamics.	**Wie werden in Ihrem Unternehmen typischerweise Entscheidungen über die Einführung neuer Technologien, wie KI, getroffen? Wer spielt bei diesen Entscheidungen die wichtigste Rolle?**
Environmental factors	**How do external factors — like market trends, competitive pressure, or legal regulations — influence your company's decisions to adopt technologies such as AI?** Targeted factors: Competitive pressure, regulatory certainty, vendor support, and AI ecosystem & network proximity.	**Wie beeinflussen äußere Faktoren — wie Markttrends, Wettbewerber oder rechtliche Vorschriften — Ihre Entscheidungen, Technologien wie KI einzuführen?**
	When bringing in new technologies like AI, how important is support from external partners, like vendors, consultants, or universities?	**Wie wichtig ist bei der Einführung neuer Technologien wie KI die Unterstützung durch externe Partner, wie Anbieter, Berater oder Universitäten?**

Focus	Question (English translation)	Question (German)
	Targeted factors: vendor support, AI ecosystem & network proximity	
Most important factors	**Now that we've touched on different aspects — technological, organizational, and external factors — if you had to pick only three that are the most important for adopting AI successfully, which ones would you choose and why?**	**Nachdem wir jetzt über technologische, organisatorische und externe Faktoren gesprochen haben: Welche drei halten Sie für die wichtigsten, um KI erfolgreich einzuführen, und warum?**

Appendix C: Code Book and Code Frequencies

Theme	Factor	Code	Count
Technology	Relative Advantages of AI	Automation / Assistance of recruitment tasks	34
Technology	Relative Advantages of AI	Candidate screening	7
Technology	Relative Advantages of AI	Improve candidate long list generation	12
Technology	Relative Advantages of AI	Interview Transcript	2
Technology	Relative Advantages of AI	Marketing	1
Technology	Relative Advantages of AI	Time saving	12
Technology	Relative Advantages of AI	Translation	2
Technology	Relative Advantages of AI	Wishlist for AI	4
Technology	Compatibility with Existing Software & Customizability	Customizable to company needs	1
Technology	Compatibility with Existing Software & Customizability	Compatibility with existing software	27
Technology	Perceived Ease of Use & Complexity	Complexity due to "prompting"	11
Technology	Perceived Ease of Use & Complexity	Ease of Installation and Learning Curve	3
Technology	Perceived Ease of Use & Complexity	Ease of use	12
Technology	Perceived Ease of Use & Complexity	Intuitiveness of AI interface	7
Technology	Cost Considerations in AI Adoption	Cost-benefit perception	13
Technology	Cost Considerations in AI Adoption	Implementation & setup costs	3
Technology	Data Availability & Quality	AI understanding of HR Databases	3
Technology	Data Availability & Quality	Data completeness and quality	8
Technology	Security & Privacy Concerns	Concern with cloud-based AI	3
Technology	Security & Privacy Concerns	Data encryption & storage security	12
Technology	Security & Privacy Concerns	Data protection in EU	11

Theme	Factor	Code	Count
Technology	Security & Privacy Concerns	Processing of sensitive candidate information	9
Technology	Security & Privacy Concerns	Security certification	2
Technology	Realistic Expectations	AI can't replace human interaction	13
Technology	Realistic Expectations	AI tech change too frequent	2
Technology	Realistic Expectations	AI's limitations in complex analytical tasks	2
Technology	Realistic Expectations	Difficulty due to too many AI offerings	1
Technology	Realistic Expectations	Expectation of AI performance	7
Technology	Realistic Expectations	Frustration due to unmet AI expectations	7
Technology	Realistic Expectations	Perceived accuracy, reliability & consistency of AI-generated outcomes	18
Organization	Strategic Alignment of AI with Recruitment Strategy	AI adapt to business process	7
Organization	Strategic Alignment of AI with Recruitment Strategy	AI adoption fitting company hiring policies	4
Organization	Strategic Alignment of AI with Recruitment Strategy	no need	2
Organization	Top Management Support	Active adoption with AI	6
Organization	Top Management Support	Dedicated leadership focus on innovation & operations	4
Organization	Top Management Support	Discussion about AI	3
Organization	Top Management Support	Leadership researches on AI	1
Organization	Resource Availability (Financial, IT, & Operational)	Dedicated resources for AI	15
Organization	Resource Availability (Financial, IT, & Operational)	Experimental user groups	1
organization	Change Management Culture	Change management culture	13
organization	Change Management Culture	Openness to AI experimentation	5
organization	Change Management Culture	Training for AI usage	12
Environment	Competitive Pressure	Gain competitive edge	4
Environment	Competitive Pressure	Market innovation pressure	11
Environment	AI Ecosystem & Network Proximity	Collaboration with AI startups	3
Environment	AI Ecosystem & Network Proximity	Get informed over online resources	2
Environment	AI Ecosystem & Network Proximity	Proximity to AI-focused universities	3
Environment	Regulatory Certainty	AI regulation in Europe	6
Environment	Vendor Support	Physical presence	2

Theme	Factor	Code	Count
Environment	Vendor Support	Technical support & feedback loop	13
Environment	Vendor Support	Technical updates	3
Environment	Vendor Support	Vendor include AI in existing offering	2
Environment	Vendor Support	Vendor training for AI	15
Innovation Adopter	1INNOVATOR	In-house AI development	4
Innovation Adopter	1INNOVATOR	Integrated AI in process	7
Innovation Adopter	2EARLYADOPTER	Strategic AI collaboration (e.g. with AI startups)	1
Innovation Adopter	2EARLYADOPTER	Visionary Leadership Structure	2
Innovation Adopter	3EARLYMAJORITY	AI chatbot experiment	11
Innovation Adopter	3EARLYMAJORITY	AI upkill & training initiatives	4
Innovation Adopter	4LATEMAJORITY	Cautious AI piloting & experiment	20
Innovation Adopter	5LAGGARD	Reluctant AI Adoption	1
Innovation Adopter	5LAGGARD	Traditional process adherence	1