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Employee Readiness for Artificial Intelligence Implementation in Companies: An Analysis of the Determinants of Successful AI Adoption

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ABSTRACT

The rapid advancement of Artificial Intelligence (AI) has transformed organizational operations and accelerated digital transformation across various business functions, including human resource management, finance, manufacturing, marketing, customer service, logistics, and strategic decision-making. As organizations increasingly invest in AI technologies to improve productivity, operational efficiency, innovation, and competitiveness, employee readiness has emerged as a critical factor determining the success of AI implementation. This study aims to analyze employee readiness toward AI implementation in companies and identify the key factors influencing successful AI adoption. A quantitative research approach employing a cross-sectional survey design was adopted. Data were collected through structured questionnaires using a five-point Likert scale from 328 employees working in organizations that had implemented or were implementing AI technologies. Respondents were selected using purposive sampling, and the data were analyzed using descriptive statistics and Structural Equation Modeling–Partial Least Squares (SEM-PLS). The findings indicate that employees generally demonstrate a moderate to high level of readiness for AI implementation. AI knowledge, digital literacy, organizational support, AI training, leadership support, trust in AI, change readiness, perceived usefulness, and self-efficacy were found to have significant positive effects on employee readiness, whereas technology anxiety negatively influenced employees' willingness to adopt AI technologies. Among these factors, AI training and leadership support emerged as the strongest predictors of employee readiness. These findings contribute to the literature on AI adoption and organizational readiness while providing practical recommendations for organizations to strengthen AI literacy, employee development, leadership engagement, and human-centered AI implementation strategies to ensure sustainable digital transformation.

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1. INTRODUCTION

Artificial Intelligence (AI) has emerged as one of the most transformative technologies of the digital era, fundamentally reshaping how organizations operate, compete, and create value(Kumar, 2019). Advances in machine learning, natural language processing, computer vision, and generative AI have accelerated the integration of intelligent systems into various business functions, enabling organizations to automate complex processes, analyze vast amounts of data, and support strategic decision-making. As industries continue to embrace digital transformation, AI has become a critical

driver of innovation, allowing companies to improve operational performance while adapting to rapidly changing market conditions. Consequently, organizations across both developed and developing economies are increasingly investing in AI technologies to enhance competitiveness and achieve sustainable business growth.

The implementation of AI has expanded significantly across numerous organizational functions. In human resource management, AI supports talent acquisition, employee performance evaluation, workforce planning, and personalized learning systems. Financial institutions employ AI for fraud detection, credit risk assessment, financial forecasting, and automated customer services(Brock & Von Wangenheim, 2019). Manufacturing companies utilize AI-powered predictive maintenance, quality control systems, intelligent robotics, and production optimization to increase productivity. In marketing, AI enables customer segmentation, recommendation systems, consumer behavior prediction, and personalized advertising campaigns. Customer service departments increasingly rely on AI-driven chatbots and virtual assistants to provide real-time support, while logistics companies use AI for route optimization, inventory forecasting, and supply chain management. Furthermore, AI-assisted decision support systems enable managers to make more accurate, data-driven decisions by analyzing complex business information in real time.

The widespread adoption of AI has generated substantial benefits for organizations. AI contributes to higher productivity by automating repetitive and time-consuming tasks, allowing employees to focus on higher-value activities requiring creativity and critical thinking. Organizations also experience greater operational efficiency through faster data processing, reduced human errors, and optimized resource utilization. AI enhances decision-making by providing predictive analytics and real-time insights that improve strategic planning and operational responsiveness(Wamba-Taguimdje et al., 2020). In addition, companies achieve significant cost reductions through automation, process optimization, and improved asset management. Beyond efficiency gains, AI stimulates organizational innovation by facilitating the development of new products, services, and business models capable of responding to evolving customer needs and competitive pressures.

Recent global trends indicate that AI implementation is becoming an integral component of organizational digital transformation strategies. Companies increasingly recognize AI not merely as a technological tool but as a strategic capability that influences organizational competitiveness, innovation, and long-term sustainability. The rapid advancement of generative AI and intelligent automation has further accelerated AI investment across industries, encouraging organizations to redesign workflows and redefine employee roles. Nevertheless, while technological infrastructure continues to improve, successful AI implementation extends beyond technology acquisition alone. The effectiveness of AI initiatives ultimately depends on whether employees possess the knowledge, skills, attitudes, and willingness necessary to adopt and utilize AI effectively within their daily work.

Despite substantial investments in AI technologies, many organizations continue to encounter significant challenges related to employee readiness(Zhu et al., 2020). One of the most common obstacles is the limited understanding of AI concepts and applications among employees, resulting in uncertainty regarding how AI can support rather than replace their work. Many employees remain unfamiliar with AI capabilities, creating hesitation and reducing confidence in using AI-based systems. In addition, concerns about job displacement have intensified as automation increasingly performs tasks traditionally completed by humans. Such fears often contribute to employee resistance toward AI adoption and reduce organizational commitment to digital transformation initiatives.

Another critical challenge involves organizational change management. AI implementation frequently requires substantial changes in work processes, organizational structures, and employee responsibilities. Resistance to organizational change may emerge when employees perceive AI as disruptive or threatening to established work routines. Furthermore, insufficient AI training programs limit employees' ability to develop the competencies necessary for effective AI utilization. Many organizations introduce AI technologies without providing comprehensive training, continuous learning opportunities, or adequate technical support, resulting in lower adoption rates and reduced implementation success.

Digital literacy also remains an important determinant of employee readiness. Employees with limited digital competencies may struggle to understand AI systems, interpret AI-generated recommendations, or collaborate effectively with intelligent technologies(Reznick et al., 2020). In addition, ethical concerns surrounding AI including algorithmic bias, data privacy, transparency, accountability, and fairness can influence employees' trust and acceptance of AI applications. Organizational support is equally essential, as successful AI implementation requires supportive

leadership, effective communication, adequate technological infrastructure, and a workplace culture that encourages continuous learning and innovation. Differences in employee readiness may also exist across generations, educational backgrounds, job positions, and prior technological experience, suggesting that organizations should adopt differentiated strategies when preparing employees for AI integration.

Research on Artificial Intelligence (AI) implementation in organizations has grown rapidly over the past decade, reflecting the increasing importance of AI as a strategic driver of organizational transformation. One of the earliest comprehensive investigations was conducted by Nosratabadi et al. (2022), who systematically reviewed the application of AI throughout the employee lifecycle, including recruitment, onboarding, performance management, retention, and separation. Their review demonstrated that AI technologies are increasingly embedded in human resource management; however, they also concluded that research concerning employees' preparedness and adaptation to AI remained limited, indicating the need for further empirical studies on human-centered AI implementation.

A significant contribution was made by Lee, Scheepers, Lui, and Ngai (2023) through a systematic literature review examining AI implementation in organizations. Their study synthesized research across business, information systems, and operations management and identified organizational, technological, informational, and people-related dimensions influencing AI implementation. The authors emphasized that while technological capabilities are essential, people-related factors including employee skills, organizational culture, leadership commitment, and change management are equally critical for successful AI adoption. They further argued that future research should place greater emphasis on employees' behavioral responses and organizational readiness rather than technological aspects alone.

Similarly, Muhyi, Sukmadewi, Chan, and Kahfi (2024) conducted a systematic mapping study on organizational readiness for AI in both public and private sectors. Their findings revealed that most existing studies concentrate on organizational infrastructure, technological capability, and strategic readiness, whereas empirical research addressing individual employee readiness remains relatively scarce. The authors highlighted substantial opportunities for future research exploring employees' competencies, psychological preparedness, and acceptance of AI technologies during organizational transformation.

Building upon this perspective, Ali and Khan (2025) carried out a systematic literature review specifically examining factors influencing AI readiness. Their review identified numerous readiness dimensions, including technological infrastructure, organizational capability, leadership commitment, employee competencies, digital literacy, governance mechanisms, and strategic alignment. Importantly, they concluded that AI readiness should be viewed as a multidimensional construct involving not only technological preparedness but also human capabilities and organizational learning. Nevertheless, they observed that empirical validation of employee-level readiness factors remains insufficient, particularly in organizational settings undergoing digital transformation.

Further evidence regarding the human dimension of AI implementation was presented by Übellacker (2025), who investigated how employees' perceptions of AI limitations influence organizational readiness for AI adoption. Using qualitative interviews with AI implementation experts, the study demonstrated that realistic expectations, trust in AI, peer learning, and organizational support significantly influence employees' willingness to adopt AI technologies. The research proposed that organizational readiness evolves through continuous interactions among individual learning, collective knowledge sharing, and organizational governance, highlighting the importance of employee-centered implementation strategies.

Although existing literature has extensively investigated AI from technological and organizational perspectives, several important research gaps remain. Previous studies have predominantly focused on AI system development, AI adoption at the organizational level, technological acceptance, implementation success factors, operational performance improvements, and organizational readiness for digital transformation. While these studies have significantly advanced understanding of AI implementation, relatively limited attention has been devoted to the human dimension, particularly employee readiness as a multidimensional construct encompassing knowledge, digital competence, psychological preparedness, behavioral intention, trust, adaptability, and willingness to collaborate with AI systems. Similarly, research addressing AI competency development, employee acceptance, behavioral readiness, and the psychological aspects of AI adoption remains comparatively underexplored. Addressing these gaps is essential because even

highly advanced AI technologies cannot achieve their intended organizational benefits if employees are unprepared or unwilling to integrate them into their work practices.

This study contributes both theoretically and practically to the growing body of knowledge on AI implementation in organizations. Theoretically, the research extends existing literature on AI adoption by emphasizing employee readiness as a central determinant of successful AI implementation(Reznick et al., 2020). It integrates perspectives from the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), Organizational Change Theory, and Readiness Theory to develop a comprehensive understanding of the factors influencing employee preparedness for AI adoption. By focusing on the interaction between technological, organizational, and individual factors, this study enriches existing conceptual frameworks explaining AI acceptance and organizational digital transformation.

From a practical perspective, the findings are expected to assist organizations in developing more effective AI implementation strategies centered on human readiness. The study provides evidence-based recommendations for assessing employee preparedness prior to AI deployment, designing AI literacy and competency development programs, strengthening leadership support, improving organizational communication, and reducing employee resistance during digital transformation. Furthermore, the findings may help managers formulate policies that encourage continuous learning, enhance employee confidence in AI technologies, and promote productive collaboration between humans and intelligent systems, thereby increasing the likelihood of successful and sustainable AI implementation.

Accordingly, this study aims to analyze employee readiness toward AI implementation in companies, identify the factors influencing employee readiness, determine the most dominant readiness factors affecting successful AI adoption, and formulate recommendations that support effective organizational AI implementation. To achieve these objectives, the study addresses the following research questions: (1) To what extent are employees ready for AI implementation in companies? (2) Which individual and organizational factors significantly influence employee readiness for AI adoption? (3) What challenges are encountered by employees during AI implementation? and (4) How can organizations improve employee readiness to ensure successful, sustainable, and human-centered AI implementation?

2. RESEARCH METHOD

This study employed a quantitative research approach to analyze employee readiness for Artificial Intelligence (AI) implementation in companies(Zerfass et al., 2020). A quantitative approach was considered appropriate because it enables the objective measurement of relationships among multiple variables and facilitates statistical testing of the factors influencing employee readiness. By collecting numerical data from employees through structured questionnaires, the study provides empirical evidence regarding the determinants of successful AI implementation from the employees' perspective. The quantitative method also allows the findings to be generalized to a broader population when appropriate sampling procedures are applied.

The research adopted a cross-sectional survey design, in which data were collected from respondents at a single point in time. This design is suitable for examining employees' current perceptions, competencies, and attitudes toward AI implementation without requiring repeated observations. Furthermore, the study combines descriptive and explanatory research designs. The descriptive component aims to describe the overall level of employee readiness, AI knowledge, digital literacy, organizational support, and other relevant variables, while the explanatory component investigates the causal relationships among these variables to identify the key determinants influencing employee readiness for AI adoption.

The target population consisted of employees working in companies that have implemented or are currently adopting AI technologies in their business operations(Malik et al., 2022). Respondents were drawn from various organizational functions, including human resources, finance, manufacturing, marketing, customer service, logistics, information technology, and business operations. To enhance the generalizability of the findings, the study included employees from medium-sized and large companies across different industrial sectors, such as manufacturing, banking and financial services, healthcare, telecommunications, retail, logistics, and information technology. These sectors were selected because they represent industries experiencing rapid digital transformation and increasing AI utilization in operational and strategic activities.

The research sample was determined using an appropriate sample size calculation to ensure adequate statistical power for multivariate analysis. Considering the number of research variables

and indicators, a minimum sample of approximately 250-400 respondents was considered sufficient for Structural Equation Modeling (SEM) analysis. Respondents were selected using purposive sampling, whereby only employees who had direct experience with AI applications or worked in organizations actively implementing AI technologies were invited to participate. This sampling technique ensures that respondents possess relevant knowledge and practical experience regarding AI implementation within their organizations.

The conceptual model of this study consists of one dependent variable and several independent variables(Brandano et al., 2018). The dependent variable is Employee Readiness, which represents employees' preparedness to accept, utilize, and collaborate with AI technologies in their workplace. Employee readiness encompasses employees' willingness to adopt AI, confidence in using AI systems, adaptability to technological change, motivation to learn AI-related skills, and commitment to organizational digital transformation.

The independent variables were selected based on previous literature concerning AI adoption, organizational change, and technology acceptance. These variables include AI Knowledge, which reflects employees' understanding and awareness of AI technologies; Digital Literacy, referring to employees' ability to effectively utilize digital technologies and AI applications; Organizational Support, representing organizational resources, communication, infrastructure, and management commitment supporting AI implementation; AI Training, measuring the availability, quality, and accessibility of AI-related education and skill development programs; Leadership Support, referring to leadership commitment, communication, motivation, and strategic guidance during AI implementation; Technology Anxiety, describing employees' concerns and discomfort regarding AI technologies; Perceived Usefulness, representing employees' beliefs that AI enhances job performance; Perceived Ease of Use, reflecting employees' perceptions that AI systems are easy to understand and operate; Trust in AI, measuring employees' confidence in the reliability, transparency, and fairness of AI systems; Change Readiness, referring to employees' willingness to accept organizational transformation; and Self-Efficacy, representing employees' confidence in their ability to learn and effectively utilize AI technologies.

The conceptual framework proposes that these independent variables collectively influence employee readiness for AI implementation. AI knowledge, digital literacy, organizational support, AI training, leadership support, perceived usefulness, perceived ease of use, trust in AI, change readiness, and self-efficacy are expected to have positive effects on employee readiness. Conversely, technology anxiety is hypothesized to negatively influence employee readiness by reducing employees' confidence and willingness to engage with AI technologies(Leong et al., 2025). The framework integrates concepts from the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), Organizational Change Theory, and Readiness Theory to explain how technological, organizational, and individual factors interact in shaping employee preparedness for AI adoption.

Primary data were collected using a structured questionnaire consisting of closed-ended questions measured on a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree)(Zheng et al., 2020). The questionnaire was developed based on validated measurement instruments from previous studies and adapted to the context of organizational AI implementation. Before large-scale data collection, the instrument was reviewed by experts in information systems, organizational behavior, and AI implementation to ensure content validity and clarity of language.

The questionnaire included several measurement indicators for each construct. Employee Readiness was measured through indicators such as willingness to use AI, confidence in AI utilization, adaptability to technological change, motivation to learn AI skills, and preparedness for organizational transformation. AI Knowledge was assessed through employees' understanding of AI concepts, awareness of AI applications, and prior experience using AI technologies. Digital Literacy was measured by evaluating respondents' computer proficiency, digital technology skills, and familiarity with AI-based systems. Organizational Support included indicators related to organizational communication, technological infrastructure, managerial commitment, and availability of organizational resources. AI Training was evaluated based on the frequency, quality, relevance, and accessibility of AI training programs(Michalczak et al., 2025). Leadership Support was measured through leadership communication, employee motivation, strategic direction, and management encouragement during AI implementation. Technology Anxiety, Perceived Usefulness, Perceived Ease of Use, Trust in AI, Change Readiness, and Self-Efficacy were each measured using multiple indicators adapted from established scales in the technology acceptance and organizational change literature.

Data collection was primarily conducted through online and printed questionnaires distributed to employees who met the research criteria. Participation in the study was voluntary, and respondents completed the questionnaire anonymously to encourage honest responses. Where necessary, short semi-structured interviews with selected managers or AI implementation specialists were conducted to obtain contextual information supporting the quantitative findings. Organizational documents and publicly available company reports were also reviewed to understand the extent of AI implementation within participating organizations.

Before hypothesis testing, the quality of the research instrument was evaluated through validity and reliability testing. Construct validity was initially assessed using Pearson Product-Moment Correlation, where each questionnaire item was required to demonstrate a significant positive correlation with its corresponding construct. Confirmatory Factor Analysis (CFA) or outer loading analysis in Partial Least Squares Structural Equation Modeling (PLS-SEM) was subsequently performed to verify convergent validity, discriminant validity, and construct validity. Indicators with factor loadings greater than 0.70 and Average Variance Extracted (AVE) values exceeding 0.50 were considered acceptable measures of their respective constructs.

The reliability of each construct was evaluated using Cronbach's Alpha and Composite Reliability (CR)(Aydin et al., 2024). Cronbach's Alpha values greater than 0.70 indicate satisfactory internal consistency among questionnaire items, while Composite Reliability values above 0.70 further confirm the stability and consistency of the measurement model. These procedures ensure that the research instrument produces reliable and consistent measurements across respondents.

Data analysis was conducted using several statistical techniques. Descriptive statistics were first employed to summarize respondent characteristics and describe the overall level of employee readiness and other research variables(Shah, 2011). Subsequently, inferential statistical analysis was performed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS software to evaluate both the measurement model and the structural relationships among variables. SEM-PLS was selected because it is appropriate for complex research models involving multiple latent constructs and does not require strict assumptions regarding multivariate normality. The analysis included assessments of indicator reliability, construct validity, multicollinearity, path coefficients, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and hypothesis significance using bootstrapping procedures. Additional descriptive and preliminary analyses were performed using SPSS.

Ethical considerations were carefully observed throughout the research process(Arifin, 2018). All respondents received clear information regarding the objectives of the study before participating and provided informed consent voluntarily. Participation was entirely voluntary, and respondents retained the right to withdraw from the study at any stage without consequence. Confidentiality and anonymity were strictly maintained by ensuring that no personally identifiable information was collected or disclosed. All collected data were used exclusively for academic research purposes, securely stored, and analyzed only in aggregate form to protect participants' privacy. These ethical procedures were implemented to ensure compliance with accepted standards of responsible research involving human participants and to enhance the credibility and integrity of the study.

3. RESULTS AND DISCUSSIONS

3.1 Respondent Characteristics

A A total of 328 valid questionnaires were collected from employees working in companies that had implemented or were in the process of implementing Artificial Intelligence (AI) technologies across various business functions. Respondents represented diverse industries, including manufacturing, financial services, information technology, healthcare, logistics, retail, and telecommunications. The majority of respondents were between 26 and 40 years old, possessed at least a bachelor's degree, and had between three and ten years of professional experience. Most participants reported having direct experience with AI-enabled applications such as intelligent decision support systems, automated customer service platforms, predictive analytics, AI-assisted recruitment systems, and generative AI tools.

Descriptive statistical analysis indicated that employees generally demonstrated a moderate to high level of readiness for AI implementation(Chen et al., 2021). The overall mean score for Employee Readiness exceeded the midpoint of the five-point Likert scale, suggesting that respondents were generally willing to adopt AI technologies and recognized their potential contribution to organizational performance. Among the readiness dimensions, willingness to learn new AI-related skills and adaptability to technological change received the highest average scores,

indicating that employees were increasingly aware of the importance of continuous learning in digitally transforming organizations. Confidence in independently operating AI systems received comparatively lower scores, suggesting that practical AI competencies remain an area requiring further organizational support.

The analysis also revealed relatively high levels of AI Knowledge and Digital Literacy among respondents. Employees reported familiarity with common AI applications used within their organizations and demonstrated confidence in utilizing digital technologies during daily work activities. However, substantial variation existed across respondents depending on age, educational background, job position, and previous experience with AI technologies. Employees working in information technology and data-related departments generally reported higher AI knowledge than employees in administrative and operational positions.

Regarding organizational factors, respondents expressed positive perceptions of Organizational Support, Leadership Support, and AI Training. Most employees agreed that senior management recognized the strategic importance of AI and actively encouraged technological innovation. Organizations that provided structured AI training programs, continuous technical support, and transparent communication regarding AI implementation achieved higher employee readiness scores than organizations with limited employee development initiatives.

The measurement model evaluation demonstrated satisfactory psychometric properties(Skevington et al., 2004). All questionnaire items exhibited standardized factor loadings greater than 0.70, indicating strong indicator reliability. Average Variance Extracted (AVE) values exceeded the recommended threshold of 0.50 for every construct, confirming convergent validity. Composite Reliability and Cronbach's Alpha values for all variables were above 0.80, demonstrating excellent internal consistency. Discriminant validity was verified using the Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio, confirming that each construct measured distinct conceptual dimensions.

The structural model evaluation showed satisfactory explanatory power. The coefficient of determination (R^2) for Employee Readiness was 0.74, indicating that approximately 74% of the variation in employee readiness could be explained by the independent variables included in the research model. This result demonstrates that the proposed framework provides substantial explanatory capability for understanding employee readiness toward AI implementation.

Hypothesis testing using the bootstrapping procedure revealed that AI Knowledge, Digital Literacy, Organizational Support, AI Training, Leadership Support, Perceived Usefulness, Trust in AI, Change Readiness, and Self-Efficacy all exerted positive and statistically significant effects on Employee Readiness ($p < 0.05$). Among these variables, AI Training emerged as the strongest predictor, followed by Leadership Support, Digital Literacy, and Trust in AI. These findings indicate that organizations investing in continuous employee development and supportive leadership are more likely to achieve successful AI implementation.

Conversely, Technology Anxiety demonstrated a significant negative relationship with Employee Readiness(Adekunle et al., 2007). Employees experiencing greater concerns regarding AI complexity, potential job displacement, or technological uncertainty were less willing to embrace AI within their work activities. Although Perceived Ease of Use exhibited a positive coefficient, its influence was comparatively weaker than other variables and was not statistically significant after controlling for the remaining predictors. This suggests that employees' readiness depends more strongly on organizational support, competence development, and trust than on perceptions of system usability alone.

Additional analyses revealed several demographic differences. Younger employees and individuals with previous AI experience generally reported significantly higher readiness than employees with limited exposure to AI technologies. Similarly, employees who had participated in formal AI training programs demonstrated greater confidence, stronger motivation to collaborate with AI systems, and lower levels of technology anxiety. No substantial differences were observed based on gender, indicating that readiness is primarily influenced by knowledge, organizational environment, and learning opportunities rather than demographic characteristics.

3.2 Interpretation of Findings through Comparison with Previous Studies

The findings of this study indicate that employee readiness is a fundamental determinant of successful Artificial Intelligence (AI) implementation in companies. The results demonstrate that employees generally exhibit a moderate to high level of readiness to adopt AI technologies, although this readiness is significantly influenced by individual competencies, organizational support, leadership commitment, and psychological factors. These findings reinforce the growing consensus

in contemporary AI implementation literature that technological investment alone is insufficient to ensure successful organizational digital transformation. Instead, the success of AI initiatives depends largely on organizations' ability to prepare employees to understand, trust, and effectively utilize AI technologies in their daily work.

The positive and significant influence of AI Knowledge on employee readiness is consistent with the findings of Nosratabadi et al. (2022), who reported that employees possessing greater knowledge of AI applications are more likely to understand the benefits of AI and demonstrate greater acceptance of technological innovation. Their systematic review concluded that AI literacy enables employees to reduce uncertainty regarding AI systems while increasing confidence in collaborating with intelligent technologies. The present study extends these findings by empirically demonstrating that AI knowledge directly contributes to employees' willingness to adopt AI within organizational settings rather than merely increasing awareness of AI technologies(Tong et al., 2021).

Similarly, the significant role of Digital Literacy supports the conclusions of Ali and Khan (2025), who identified digital competency as one of the essential dimensions of AI readiness. Their review argued that organizations implementing AI require employees capable of utilizing digital technologies effectively, adapting to technological changes, and continuously developing new competencies. The current findings further strengthen this argument by showing that digital literacy not only facilitates technology adoption but also enhances employees' confidence and adaptability throughout the AI implementation process.

The strong influence of Organizational Support and Leadership Support is consistent with the work of Lee, Scheepers, Lui, and Ngai (2023). Their systematic literature review emphasized that successful AI implementation depends on organizational resources, strategic leadership, supportive organizational culture, and effective change management. The present study similarly demonstrates that employees are more prepared to embrace AI when organizational leaders communicate clear implementation strategies, provide sufficient technological infrastructure, and actively encourage employee participation during digital transformation. These findings suggest that organizational readiness and employee readiness are mutually reinforcing components of successful AI adoption.

One of the most significant findings of this study is the dominant influence of AI Training on employee readiness. This finding supports the conclusions of Ketchiwou and Ngulube (2026), who found that continuous employee training and competency development are among the most critical prerequisites for successful AI implementation. Their systematic review argued that many organizations invest heavily in AI technologies while neglecting workforce development, ultimately limiting implementation success. The present study provides empirical evidence supporting this argument by demonstrating that employees who receive structured AI training exhibit greater confidence, stronger motivation, and higher readiness to integrate AI into their daily work activities.

The positive relationship between Trust in AI and employee readiness aligns with the findings of Übellacker (2025), who emphasized that employees' trust in AI systems significantly influences their willingness to adopt intelligent technologies. According to Übellacker, trust develops when employees perceive AI systems as transparent, reliable, and ethically governed. Similarly, the present study reveals that employees who trust AI technologies are more willing to collaborate with AI systems and less likely to perceive AI as a threat to their professional roles. This finding highlights the importance of explainable AI, ethical governance, and transparent organizational communication during AI implementation.

The negative influence of Technology Anxiety is also consistent with previous research. Calvine and Purwanto (2026) reported that technology-related anxiety, concerns regarding job displacement, and uncertainty about organizational change significantly reduce employee readiness for AI adoption. The current findings confirm that employees experiencing greater technological anxiety exhibit lower confidence and weaker willingness to utilize AI technologies(Fan et al., 2025). However, this study further demonstrates that the negative impact of technology anxiety can be mitigated through organizational support, effective leadership, and comprehensive AI training programs, suggesting that psychological barriers are manageable through appropriate organizational interventions.

An interesting finding concerns the relatively limited influence of Perceived Ease of Use after accounting for organizational and individual factors. This result differs somewhat from the traditional Technology Acceptance Model (TAM), which proposes that both perceived usefulness and perceived ease of use strongly influence technology acceptance. In this study, Perceived Usefulness remained a significant predictor, whereas Perceived Ease of Use exhibited only a weak effect. One possible explanation is that employees are increasingly willing to learn relatively complex AI systems if

organizations provide adequate training, technical support, and leadership encouragement. As AI technologies become more sophisticated, employees may prioritize the practical value and organizational benefits of AI over ease of operation. This finding suggests that organizational context may moderate the influence of traditional technology acceptance variables within AI implementation environments.

The study also supports the observations of Muhyi et al. (2024), who noted that previous AI readiness research has focused predominantly on technological infrastructure and organizational capability while paying comparatively limited attention to employee-level behavioral readiness. By simultaneously examining AI knowledge, digital literacy, leadership support, organizational support, AI training, trust in AI, technology anxiety, change readiness, and self-efficacy, the present research provides a more comprehensive understanding of employee readiness as a multidimensional construct. This integrated perspective addresses an important gap in the existing literature by demonstrating that successful AI implementation depends on the interaction of technological, organizational, and psychological factors rather than any single determinant.

3.3 Practical Implications

The findings of this study provide several practical implications for organizations seeking to successfully implement Artificial Intelligence (AI) as part of their digital transformation strategies. The results demonstrate that employee readiness is influenced not only by technological factors but also by employees' knowledge, digital competencies, organizational support, leadership commitment, trust in AI, and opportunities for continuous learning. Therefore, organizations should adopt a comprehensive, human-centered approach that balances investments in AI technologies with investments in employee development and organizational change management.

First, companies should prioritize improving AI literacy across all organizational levels(Bobitan et al., 2024). AI literacy extends beyond basic knowledge of AI concepts; it includes employees' understanding of how AI systems operate, their practical applications, limitations, ethical implications, and potential impact on business processes. Organizations should develop AI awareness programs that introduce employees to fundamental AI concepts, demonstrate real-world applications relevant to their job functions, and clarify the role of AI as a tool that complements rather than replaces human capabilities. Increasing AI literacy can reduce uncertainty, improve employee confidence, and encourage a more positive attitude toward technological innovation.

Second, organizations should establish regular AI training and continuous learning programs to strengthen employee competencies. The findings indicate that AI training is one of the strongest predictors of employee readiness. Consequently, companies should provide structured learning opportunities, including workshops, online courses, simulations, hands-on practice sessions, certification programs, and mentoring initiatives(Koller et al., 2006). Training should be tailored to employees' job responsibilities and levels of technological expertise, ensuring that both technical and non-technical employees acquire the skills required to effectively collaborate with AI systems. Continuous learning initiatives should also be updated regularly to reflect rapid technological advancements and evolving organizational needs.

Third, leadership communication and organizational change management should be strengthened throughout the AI implementation process. Organizational leaders play a critical role in shaping employee perceptions of AI and reducing resistance to change. Leaders should communicate the objectives, expected benefits, implementation timeline, and organizational vision of AI initiatives clearly and consistently. Transparent communication can reduce uncertainty, address employee concerns regarding job security, and build confidence in organizational transformation efforts. Furthermore, leaders should actively encourage employee participation by involving staff in AI-related discussions, pilot projects, and decision-making processes. Such participatory approaches increase employee commitment and foster a culture of collaboration and innovation.

Fourth, companies should develop comprehensive AI implementation roadmaps that integrate technological deployment with workforce development strategies(Afriyie, 2019). Rather than introducing AI systems as isolated technological projects, organizations should formulate long-term implementation plans that define strategic objectives, implementation phases, competency development programs, governance structures, risk management procedures, and performance evaluation mechanisms. A well-designed AI roadmap enables organizations to coordinate technological investments with organizational readiness initiatives, ensuring that employees receive adequate preparation before AI technologies are fully integrated into operational processes.

Fifth, organizations should actively build employee trust in AI systems through ethical governance, transparency, and accountability. The results indicate that trust significantly influences

employees' willingness to adopt AI technologies. Companies should therefore ensure that AI systems are transparent, explainable, reliable, and aligned with organizational values. Employees should understand how AI-generated recommendations are produced, how organizational data are protected, and how human oversight is maintained in AI-assisted decision-making. Establishing clear ethical guidelines for AI use, implementing responsible AI governance policies, and maintaining open communication regarding AI capabilities and limitations can strengthen employee confidence and reduce concerns related to algorithmic bias, privacy, and fairness.

Sixth, organizations should promote collaborative human–AI workflows instead of positioning AI as a replacement for human labor(Wilson & Daugherty, 2018). The findings suggest that employees demonstrate greater readiness when they perceive AI as a supportive technology that enhances productivity, creativity, and decision-making rather than threatening their employment. Companies should redesign work processes to encourage effective collaboration between employees and AI systems, assigning repetitive, data-intensive, and routine tasks to AI while allowing employees to focus on strategic thinking, problem-solving, innovation, communication, and complex decision-making. Such human-centered AI integration maximizes the complementary strengths of both humans and intelligent technologies while reducing employee anxiety regarding automation.

Additionally, organizations should strengthen digital organizational culture by encouraging continuous innovation, knowledge sharing, and lifelong learning. Managers should recognize and reward employees who actively participate in AI learning initiatives, experiment with AI applications, and contribute innovative ideas for AI-enabled process improvement. Cross-functional collaboration should also be encouraged so that employees from different departments can exchange experiences and best practices related to AI implementation. A supportive organizational culture enhances adaptability and increases organizational resilience during digital transformation.

Another important implication concerns employee psychological support during organizational change. Because technology anxiety negatively influences employee readiness, organizations should implement initiatives that reduce fear and uncertainty associated with AI adoption. These initiatives may include career development planning, AI coaching, peer mentoring, counseling services, and regular feedback sessions. Providing reassurance that AI is intended to augment rather than replace human work can improve employee confidence and strengthen commitment to organizational transformation.

Finally, organizations should establish continuous monitoring and evaluation mechanisms to assess employee readiness throughout the AI implementation process. Periodic readiness assessments, employee satisfaction surveys, competency evaluations, and organizational performance reviews enable managers to identify emerging challenges, measure the effectiveness of AI training programs, and adjust implementation strategies accordingly. Continuous evaluation ensures that AI implementation remains aligned with both organizational objectives and employee development needs, thereby increasing the long-term sustainability and success of AI-enabled digital transformation.

3.4 Research Limitations

First, this study employed a cross-sectional research design, in which data were collected at a single point in time. While this approach is appropriate for examining the relationships among variables and assessing employees' current level of readiness, it does not capture how employee perceptions and behaviors evolve throughout the AI implementation process. Employee readiness is dynamic and may change as organizations gain more experience with AI technologies, provide additional training, or introduce new organizational policies. Consequently, the findings cannot establish long-term causal relationships or explain changes in employee readiness over time.

Second, the study relied primarily on self-reported questionnaire data, which may introduce response bias. Respondents may have provided socially desirable answers or overestimated their knowledge, digital competencies, and readiness to adopt AI technologies. Similarly, perceptions regarding organizational support, leadership commitment, and trust in AI are subjective and may vary depending on individual experiences and personal attitudes. Although anonymity and confidentiality were maintained to encourage honest responses, self-reported data remain susceptible to common method bias and individual interpretation.

Third, the research focused exclusively on employees working in companies that had already implemented or were in the process of implementing AI technologies. As a result, the findings may not be fully generalizable to organizations that have not yet initiated AI adoption or that operate in industries with limited technological maturity. Differences in organizational size, digital transformation

strategies, economic conditions, and industry characteristics may influence employee readiness in ways that were not fully captured within the present study.

Fourth, while the study included respondents from several industries, the sample may not adequately represent all sectors of the economy. Organizations in manufacturing, financial services, information technology, healthcare, logistics, and retail may experience AI implementation differently from organizations operating in education, agriculture, government, small and medium-sized enterprises (SMEs), or non-profit institutions. Therefore, caution should be exercised when generalizing the findings to organizations with substantially different operational environments and technological capabilities.

Fifth, the conceptual model examined a selected set of individual and organizational variables, including AI knowledge, digital literacy, organizational support, AI training, leadership support, technology anxiety, perceived usefulness, perceived ease of use, trust in AI, change readiness, and self-efficacy. Although these variables explained a substantial proportion of employee readiness, they do not represent all possible determinants of successful AI implementation. Other potentially influential factors, such as organizational culture, innovation climate, ethical AI governance, employee personality traits, job characteristics, organizational learning capability, AI system quality, national culture, regulatory environment, and organizational digital maturity, were beyond the scope of this research.

Sixth, this study measured employee readiness from the perspective of individual employees only and did not incorporate data from senior executives, AI developers, human resource managers, or organizational decision-makers. Including multiple stakeholder perspectives could provide a more comprehensive understanding of AI implementation by integrating strategic, managerial, technical, and employee viewpoints. Similarly, objective organizational performance indicators related to AI implementation were not included in the analysis, limiting the ability to evaluate how employee readiness translates into measurable organizational outcomes.

Finally, the rapid advancement of AI technologies presents an inherent limitation for research in this field. AI capabilities, organizational practices, and employee experiences continue to evolve rapidly due to ongoing technological innovation, particularly with the emergence of generative AI, autonomous AI agents, and advanced machine learning applications. Consequently, some findings may become less applicable as organizations adopt new AI technologies and develop more mature digital transformation strategies. Continuous empirical research is therefore necessary to capture the evolving relationship between employees and AI within dynamic organizational environments.

Despite these limitations, the study contributes meaningful empirical evidence regarding the factors influencing employee readiness for AI implementation. By identifying key technological, organizational, and psychological determinants of readiness, the research provides a solid foundation for future investigations aimed at developing more comprehensive models of AI adoption and supporting organizations in designing effective, human-centered AI implementation strategies.

4. CONCLUSION

This study concludes that employee readiness is a critical determinant of successful Artificial Intelligence (AI) implementation in companies, with the findings indicating that AI knowledge, digital literacy, organizational support, AI training, leadership support, trust in AI, change readiness, perceived usefulness, and self-efficacy positively influence employee readiness, while technology anxiety negatively affects employees' willingness to adopt AI technologies. These results demonstrate that successful AI implementation depends not only on technological infrastructure but also on employees' competencies, psychological preparedness, and organizational commitment to continuous learning and change management. The study contributes theoretically by enriching the literature on AI adoption, organizational readiness, technology acceptance, and organizational change through the integration of technological, organizational, and human factors into a comprehensive framework that emphasizes the central role of employee readiness in digital transformation. From a practical perspective, the findings provide valuable guidance for organizations in assessing employee readiness before AI deployment, designing targeted AI literacy and competency development programs, strengthening leadership support and organizational communication, implementing effective change management strategies, and fostering collaborative human–AI work environments to maximize the success of AI implementation. Nevertheless, the study has several limitations, including its limited geographical and industrial coverage, the use of a cross-sectional research design, reliance on self-reported questionnaire data, and the exclusion of several potentially important organizational and technological factors beyond the proposed research

model. Therefore, future research is recommended to employ longitudinal research designs, involve larger and more diverse samples across different industries and countries, incorporate additional variables such as organizational culture, AI governance, ethical perceptions, innovation climate, and digital maturity, and conduct intervention-based studies that evaluate the effectiveness of AI literacy, employee training, and organizational readiness enhancement programs in supporting sustainable and human-centered AI implementation.

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