

Navigating the Double-Edged Sword: AI Familiarity, Trust, and Employee Attitudes Toward Technological Innovation in the Financial Sector

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Abstract

This study examines the complex interplay between AI familiarity, trust in AI, innovation orientation, change acceptance, and fears of job replacement among employees in the financial sector. Drawing on a sample of 196 respondents and employing Partial Least Squares Structural Equation Modeling, the analysis reveals that AI familiarity significantly predicts trust in AI ($\beta = 0.463$, $p < 0.001$), which in turn positively influences innovation orientation ($\beta = 0.609$, $p < 0.001$). However, neither change acceptance nor innovation orientation demonstrated significant effects on replacement fears, and trust in AI did not significantly alleviate such concerns. These findings suggest that employees cognitively distinguish between technological appreciation and employment security, indicating that trust in AI as a functional tool does not translate into reduced anxiety about workforce displacement. The study contributes to the literature on technology acceptance, organizational change, and the future of work by highlighting the complex, non-linear relationships between cognitive, affective, and behavioral responses to AI implementation. Theoretical implications for understanding AI as an ambivalent technology and practical recommendations for organizations seeking to foster innovation while managing employee concerns are discussed.

Keywords: artificial intelligence, trust in technology, innovation orientation, job replacement anxiety, digital transformation

1. Introduction

The contemporary business landscape is undergoing a transformation of unprecedented magnitude, driven by the accelerating adoption of artificial intelligence (AI) technologies across virtually all industries [11, 16]. Organizations, particularly in the financial sector, increasingly deploy advanced AI-based tools to optimize operational processes, enhance decision-making capabilities, reduce costs, and adapt to rapidly evolving customer expectations [8, 32]. AI, defined as the domain of computer science concerned with creating systems capable of intelligent decision-making, learning, and problem-solving [11, 34], has found applications ranging from sophisticated data analysis and market forecasting to risk management, fraud detection, and customer service automation. The financial sector, characterized by its data-intensive nature, competitive pressures, and regulatory complexity, has emerged as a particularly fertile ground for AI implementation, with institutions leveraging machine learning algorithms for algorithmic trading, credit scoring, personalized banking services, and intelligent investment advisory [8, 13, 34].

The emergence of Banking 4.0, characterized by the integration of AI, virtual reality, voice recognition, and electronic banking technologies, represents a fundamental reconfiguration of the relationship between financial institutions and their customers [4, 17]. These technological innovations promise to deliver personalized, integrated, and tailored experiences that transform how clients interact with banking services. The adoption of Industry 4.0 technologies in banking, including AI and advanced data processing methods, strengthens communication, automates processes, and improves

service quality, ultimately enhancing operational effectiveness [4, 19]. AI-powered chatbots and voice-activated virtual assistants now provide personalized banking services to customers, reducing the burden on call centers while simultaneously raising concerns about the changing nature of financial work [19, 29].

However, the integration of AI into organizational workflows embodies an inherent and profound ambivalence that distinguishes it from previous waves of technological innovation. While these technologies offer substantial benefits in terms of operational efficiency, cost reduction, error minimization, and service quality improvement, they simultaneously generate significant concerns regarding employment security, skill obsolescence, and the future of human labor [1, 31]. The potential for AI systems to automate not merely manual tasks but increasingly cognitive and decision-making functions previously considered the exclusive domain of human workers raises fundamental questions about the future of work, the redistribution of labor, and the psychological impact of technological displacement on employees [5, 30]. This tension is particularly acute in the financial sector, where routine analytical tasks, customer service interactions, compliance monitoring, and even complex decision-making processes are increasingly susceptible to automation [20, 26].

Research on the impact of AI across various sectors reveals a consistent pattern of workforce transformation. In healthcare, AI systems demonstrate diagnostic capabilities comparable to or exceeding human specialists in analyzing medical data, potentially reducing demand for radiologists and diagnostic technicians while simultaneously raising questions about accountability for AI-generated errors [6, 14, 18]. AI applications in medicine extend to personalized treatment recommendations, drug discovery, and patient data management, fundamentally reshaping the roles of healthcare professionals [14]. In manufacturing, AI-supported robotics and cyber-physical systems enable 24-hour production with greater precision than human workers, while predictive maintenance algorithms reduce downtime and operational costs [1, 7, 15]. These technologies lead to significant workforce reductions, particularly for employees performing repetitive and routine tasks, while simultaneously creating demand for workers with skills in AI system management and maintenance [22]. The transportation sector faces perhaps the most visible disruption, with autonomous vehicle technologies threatening millions of professional driving positions while promising improved safety and efficiency [25]. In agriculture, AI-powered precision farming systems optimize pesticide and fertilizer usage, monitor crop health through image analysis, and enable robotic harvesting, increasing efficiency while reducing manual labor requirements [2]. In retail, AI-driven demand forecasting, inventory optimization, and recommendation algorithms reduce the need for manual labor while simultaneously creating new roles in technology management and data analysis [21].

Understanding the factors that influence employee attitudes toward AI implementation is crucial for organizations seeking to navigate this transformation successfully. While extant research has examined various aspects of technology acceptance and resistance, less attention has been devoted to the specific dynamics underlying employee openness to AI-driven innovation and their concurrent fears of replacement. This study addresses this gap by investigating the relationships between AI familiarity, trust in AI, innovation orientation, change acceptance, and replacement anxiety among employees in the financial sector. By examining these relationships through the lens of PLS-SEM, this research provides nuanced insights into the psychological mechanisms that underlie employee responses to AI implementation.

2. Literature Review and Hypothesis Development

2.1. Theoretical Framework

The theoretical foundation of this study draws upon established models of technology acceptance, including the Technology Acceptance Model (TAM) and its extensions, while acknowledging the unique characteristics of AI as a disruptive technology that fundamentally differs from previous innovations [28]. Unlike earlier technological innovations that primarily automated physical labor, AI possesses the distinctive capacity to emulate cognitive functions traditionally associated with human intelligence, including

learning, reasoning, natural language processing, and complex decision-making [3, 33]. This capability renders AI qualitatively different from earlier automation technologies and consequently necessitates a nuanced examination of employee responses that accounts for this fundamental distinction.

The ambivalent nature of AI in organizational contexts has been conceptualized as a double-edged sword [31]. On the positive edge, AI can support organizational learning processes, contributing to the development of both explicit and tacit routines that enhance operational quality, accuracy, and precision. AI technologies enable firms to process vast quantities of data in real-time, identify patterns invisible to human analysts, and make decisions with consistency that exceeds human capabilities [8, 34]. On the negative edge, AI implementation may undermine existing procedures, erode employee autonomy, marginalize human expertise, and generate unintended negative consequences including employee resistance, anxiety, and diminished job satisfaction [6, 31]. This ambivalence underscores the importance of understanding the psychological mechanisms through which employees evaluate and respond to AI technologies.

The theoretical framework guiding this study posits that employee responses to AI are shaped by a combination of cognitive factors (knowledge and familiarity), affective factors (trust and anxiety), and attitudinal orientations (innovation orientation and change acceptance). These factors interact in complex ways that may not follow the linear relationships assumed in simpler technology acceptance models. Specifically, employees may simultaneously hold positive attitudes toward AI as a technological tool while experiencing negative affective responses regarding its employment implications.

2.2. AI Familiarity and Trust in AI

Familiarity with technology represents a foundational determinant of user acceptance, trust, and subsequent adoption behavior. In the context of AI, familiarity encompasses both conceptual understanding of AI principles, including machine learning, deep learning, and neural networks, and practical experience with AI-based applications in professional and personal contexts [3, 33]. Research consistently demonstrates that increased exposure to and knowledge of technology reduces uncertainty, corrects misconceptions, and fosters positive attitudes toward technological innovations [28]. When employees understand how AI systems function, recognize their limitations, and have hands-on experience with these tools, they are better positioned to evaluate their capabilities and limitations accurately, thereby reducing apprehension and building confidence.

The relationship between familiarity and trust is particularly salient in the context of AI because these technologies often operate as “black boxes” whose decision-making processes are opaque to end-users [13, 26]. Employees who lack familiarity with AI may attribute erroneous decisions to malice or incompetence rather than recognizing the limitations inherent in algorithmic decision-making. Conversely, employees with greater familiarity can better calibrate their trust, recognizing when AI systems are likely to perform well and when human judgment remains essential.

Trust in AI, defined as the willingness to rely on AI systems based on positive expectations about their performance, reliability, and benevolence, constitutes a critical mediating variable between knowledge and behavioral outcomes [13]. Trust formation is particularly salient in the financial sector, where AI systems increasingly participate in high-stakes decision-making processes such as credit assessment, investment recommendations, fraud detection, and risk evaluation [13, 26]. The deployment of robo-advisors for investment decisions exemplifies the trust challenges facing financial institutions, as clients and employees alike must reconcile confidence in algorithmic efficiency with concerns about the absence of human judgment in financial planning [26]. Employees who possess greater familiarity with AI tools are expected to develop more accurate perceptions of their functionality, limitations, and appropriate use cases, leading to enhanced trust that is appropriately calibrated rather than naively optimistic or reflexively skeptical. Thus, we propose:

H1: AI familiarity positively influences trust in AI.

2.3. *Trust in AI and Innovation Orientation*

Innovation orientation refers to employees' openness to new technologies and their willingness to embrace novel solutions in their professional activities. This construct captures the attitudinal predisposition toward adopting innovative practices, experimenting with new approaches, and viewing technological change as an opportunity for growth rather than a threat to established routines. Innovation orientation encompasses cognitive openness to new ideas, affective enthusiasm for experimentation, and behavioral willingness to invest effort in learning and implementing new technologies [4, 17].

Trust is important for innovation orientation because employees who trust AI technologies are more likely to perceive them as valuable tools for professional development and performance enhancement rather than as sources of disruption or displacement. When employees trust that AI systems will perform as intended, they can allocate cognitive resources to exploring innovative applications rather than monitoring for failures or protecting against anticipated errors. This dynamic is particularly relevant in the financial sector, where the complexity of AI applications requires significant learning investment, and distrust may lead employees to rely on familiar but less efficient manual processes [12, 20].

The relationship between trust and innovation orientation is grounded in the broader literature on technology acceptance, which posits that positive attitudes toward technology facilitate adoption intentions and behaviors [10]. In the financial sector, where technological innovation is increasingly central to competitive advantage and regulatory compliance, fostering employee innovation orientation is essential for successful digital transformation [4, 17]. Financial institutions that have successfully implemented AI technologies report that employee trust in these systems correlates with willingness to incorporate AI insights into decision-making processes and to advocate for expanded AI applications within their organizations [29]. Employees who trust AI are expected to be more receptive to incorporating these technologies into their workflows, to invest effort in developing complementary skills, and to view innovation as a pathway to improved effectiveness rather than a threat to their professional identity. Thus, we propose:

H2: Trust in AI positively influences innovation orientation.

2.4. *Change Acceptance and Replacement Anxiety*

Change acceptance reflects employees' willingness to adapt to new technologies and modify their established work practices. In the context of AI implementation, change acceptance involves recognizing the potential for professional development through acquiring new skills, viewing technological transitions as opportunities for modernizing work methods, and maintaining flexibility in the face of evolving job requirements [5, 31]. Employees with high change acceptance demonstrate resilience in the face of disruption, proactively seek learning opportunities, and frame organizational changes in terms of potential benefits rather than losses.

The relationship between change acceptance and replacement anxiety, however, is theoretically more complex than simple inverse correlation might suggest. On one hand, employees who are generally accepting of change may possess the psychological resources to reframe AI implementation as an opportunity for skill development and career advancement, thereby buffering against anxiety about displacement. The capacity to adapt, learn new competencies, and transition between roles may provide a sense of employment security that transcends the specific tasks currently performed [5, 27].

On the other hand, employees who are accepting of change may also be more attuned to the transformative potential of AI and consequently more aware of its capacity to fundamentally restructure labor markets. Change-accepting employees may recognize that their willingness to adapt does not guarantee the availability of alternative positions, particularly if AI adoption proceeds more rapidly than labor market adjustment. Given the unique characteristics of AI as a technology capable of substituting cognitive labor at unprecedented scale, even change-oriented employees may experience legitimate concerns about displacement that their adaptive capacity cannot fully address [1, 30]. The direction of this relationship thus remains an empirical question. Thus, we propose:

H3: Change acceptance negatively influences replacement anxiety.

2.5. *Innovation Orientation and Replacement Anxiety*

Innovation orientation and replacement anxiety represent potentially conflicting responses to AI implementation that may coexist within individual employees. Employees with high innovation orientation may appreciate the capabilities of AI, recognize its potential to enhance productivity and service quality, and actively seek opportunities to leverage these technologies in their work. Simultaneously, these same employees may recognize that the very capabilities they appreciate like pattern recognition at scale, consistent decision-making and 24/7 availability, render AI a potential substitute for human labor [1, 31].

The direction of this relationship is theoretically indeterminate. Innovation-oriented employees might view AI as a complementary tool that enhances their value by automating routine tasks and freeing cognitive resources for higher-level activities, thereby reducing anxiety about displacement. From this perspective, AI becomes a tool that amplifies human capabilities rather than replacing them, and employees who embrace innovation position themselves as irreplaceable partners in human-AI collaboration [11, 14].

Conversely, innovation-oriented employees might possess greater awareness of AI's advancing capabilities and consequently experience heightened anxiety about long-term employment prospects. Employees who actively follow AI developments may be more aware of research demonstrating AI's capacity to perform increasingly sophisticated tasks, from medical diagnosis to legal analysis to financial advising. This awareness may generate realistic concerns that today's complementary tool could become tomorrow's replacement [9, 20]. Prior research on technology acceptance suggests that positive attitudes toward innovation generally correlate with reduced resistance to change, but AI technologies differ fundamentally from previous innovations in their capacity to replicate cognitive tasks previously considered uniquely human. Consequently, even employees who embrace innovation may experience apprehension about the long-term implications for their employment security. Thus, we propose:

H4: Innovation orientation negatively influences replacement anxiety.

2.6. *Trust in AI and Replacement Anxiety*

The relationship between trust in AI and replacement anxiety addresses a critical question with significant practical implications: does confidence in AI technology alleviate or exacerbate concerns about job displacement? This relationship sits at the heart of the AI paradox, cause that the same characteristics that make AI valuable (reliability, efficiency, capability) also make it threatening to human employment.

Trust may reduce anxiety by fostering the perception that AI serves as a supportive tool that augments rather than replaces human labor. Employees who trust AI's capabilities may be more likely to envision collaborative workflows in which humans and AI systems each contribute their complementary strengths. From this perspective, trust enables employees to see AI as a partner that handles routine tasks while humans focus on complex judgment, interpersonal interaction, and ethical considerations that remain beyond AI's reach [11, 14]. Trust may also facilitate proactive skill development that enhances employability, reducing anxiety by increasing confidence in one's capacity to adapt to changing labor market demands.

Conversely, employees who trust AI's capabilities may simultaneously recognize that these same capabilities render the technology capable of performing tasks currently executed by humans. Trust in AI's effectiveness is not necessarily reassuring when that effectiveness is precisely what threatens one's livelihood. An employee who trusts that an AI system can accurately assess credit risk, provide investment advice, or detect fraudulent transactions may reasonably conclude that their own expertise in these areas is becoming less essential [20, 26]. This ambiguity reflects the fundamental tension in AI implementation: the more capable and trustworthy the technology, the greater its potential to displace human workers. Understanding whether trust mitigates or amplifies replacement anxiety has significant implications for organizational strategies aimed at fostering positive AI attitudes while addressing legitimate employee concerns. We propose

H5: Trust in AI negatively influences replacement anxiety.

3. Methodology

3.1. Research Design and Sample

This study employed a quantitative cross-sectional survey design to examine the relationships between AI familiarity, trust in AI, innovation orientation, change acceptance, and replacement anxiety among employees. Data were collected in January 2026, through an online questionnaire distributed to employees in the financial sector, including banking, insurance, investment services, and financial technology firms. The survey was administered via Google Forms and distributed through professional networks, organizational contacts, and social media platforms targeting finance professionals.

The final sample comprised 196 respondents who completed the questionnaire in its entirety. While modest in size, this sample is adequate for PLS-SEM analysis, which is known for its robustness with smaller samples and its ability to handle complex models with multiple constructs [23]. The sample exhibited demographic characteristics reflecting the composition of the contemporary financial workforce: 59.4% were female and 40.6% were male. In terms of age distribution, the sample skewed toward younger professionals, with 41.7% between 18-24 years, 34.4% between 25-34 years, 10.4% between 35-44 years, 8.3% between 45-54 years, and 5.2% aged 55 years or older. This age distribution reflects both the growing presence of younger workers in the financial sector and their potentially greater exposure to AI technologies during their education and early careers.

Regarding educational attainment, 61.5% of respondents held university degrees, 34.4% had completed secondary education, and 4.2% had primary or vocational education. The high proportion of university-educated respondents is consistent with the skill requirements of the financial sector and suggests that the sample represents a segment of the workforce that may be particularly attuned to technological developments and their professional implications.

3.2. Measurement Instrument

All constructs were measured using multi-item scales developed for this study based on established theoretical frameworks and prior research in technology acceptance, organizational behavior, and the future of work. All items were assessed on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating greater levels of the measured construct.

AI familiarity was measured with four items assessing both conceptual knowledge and practical experience with AI technologies. The items captured respondents' understanding of AI principles ("I know the basic principles of how AI technology works"), awareness of AI developments ("I regularly follow news and trends regarding AI development"), confidence in using AI applications ("I feel confident using applications and tools based on AI technology"), and frequency of AI usage ("I frequently use applications or tools based on AI"). This multidimensional approach to measuring familiarity acknowledges that knowledge of AI encompasses both theoretical understanding and practical competence.

Trust in AI was initially measured with five items capturing various dimensions of trust in AI systems. The items assessed confidence in AI's decision-making capabilities ("I trust that AI technologies can effectively support decision-making"), perceived security benefits ("I am convinced that AI technologies can contribute to improved security"), effectiveness perceptions ("I believe that AI algorithms are sufficiently effective to make accurate decisions"), general trust in AI ("I have trust in AI technology in the context of decision-making"), and expected financial benefits ("I believe that AI technologies can bring financial benefits to both me and society as a whole").

Innovation orientation was assessed through five items measuring openness to new technologies, perceived benefits of innovation, readiness for technological change, comfort with adaptation, and perception of innovation as development opportunity. Sample items include "I am open to new technologies in my professional work" and "I perceive innovations as an opportunity to develop and improve work efficiency." This construct captures both the attitudinal and behavioral dimensions of innovation orientation.

Change acceptance was measured with four items addressing openness to new

technologies, perceived professional development opportunities, viewing change as modernization opportunity, and general readiness to adapt. Items included “I am open to the introduction of new technologies, even if it means changing my current work methods” and “I see the possibility of professional development through learning new skills related to AI technology.”

Replacement anxiety was initially assessed with five items capturing fears of job loss, concerns about automation-driven workforce reduction, personal role displacement, skill obsolescence, and career stability concerns. Sample items include “I fear that AI technologies may cause me to lose my job” and “My professional skills will become unnecessary due to the development of AI technology.”

3.3. Analytical Approach

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software. PLS-SEM was selected for this study due to several advantages that align with the research objectives and data characteristics. First, PLS-SEM is particularly suitable for exploratory research aimed at developing and testing theoretical models where the relationships between constructs are not yet fully established [24]. Second, PLS-SEM can handle complex models with multiple constructs and indicators without requiring large sample sizes, making it appropriate for the present study's sample of 196 respondents. Third, PLS-SEM does not require assumptions about multivariate normality, which is advantageous given the ordinal nature of Likert scale data.

The analysis followed the established two-stage approach recommended for PLS-SEM [24]. In the first stage, the measurement model was evaluated to assess the reliability and validity of the constructs. This involved examining indicator reliability through outer loadings, internal consistency reliability through Cronbach's alpha and composite reliability, convergent validity through Average Variance Extracted (AVE), and discriminant validity through the Heterotrait-Monotrait (HTMT) ratio. In the second stage, the structural model was examined to test the hypothesized relationships between constructs, with significance assessed through bootstrapping procedures.

4. Results

4.1. Measurement Model Evaluation

The initial measurement model assessment revealed that several indicators did not meet the recommended thresholds for outer loadings. Specifically, items AN1 (“I fear that AI technologies may cause me to lose my job”) and AN2 (“Automation of AI-related processes may lead to job reductions”) within the replacement anxiety construct, and items TR2 (“I am convinced that AI technologies can contribute to improved security”), TR3 (“I believe AI algorithms are sufficiently effective to make accurate decisions”), and TR4 (“I have trust in AI technology in the context of decision-making”) within the trust in AI construct exhibited outer loadings below the 0.70 threshold. These items were consequently removed from the model to improve measurement quality.

The refined measurement model demonstrated satisfactory psychometric properties. Table 1 presents the reliability and validity indices for all constructs.

Table 1. Measurement model and assessment

Construct	Cronbach's α	ρ_a	ρ_c	AVE
Change Acceptance	0.906	0.979	0.932	0.773
Innovation Orientation	0.926	0.928	0.944	0.772
Replacement Anxiety	0.928	0.969	0.954	0.872
AI Familiarity	0.862	0.880	0.905	0.704
Trust in AI	0.847	0.856	0.911	0.837

All constructs exceeded the recommended thresholds for internal consistency and convergent validity. Cronbach's alpha values ranged from 0.862 to 0.928, composite reliability (ρ_c) values ranged from 0.905 to 0.954, and AVE values ranged from 0.704

to 0.872, all surpassing the minimum acceptable criteria. The HTMT ratios (Table 2) were all below the 0.85 threshold, confirming adequate discriminant validity.

Table 2. HTMT ratio

	Change Acc.	Innovation	Replacement	Familiarity
Innovation	0.845			
Replacement	0.134	0.150		
Familiarity	0.628	0.622	0.147	
Trust	0.589	0.612	0.198	0.463

4.2. Structural Model Results

The structural model was evaluated using bootstrapping with 5,000 subsamples to assess the significance of path coefficients. Table 3 presents the results of hypothesis testing.

Table 3. Patch coefficients

Hypothesis Path		β	Mean	SD	t-value	p-value
H1	Familiarity $\rightarrow$ Trust	0.463	0.482	0.080	5.791	0.000
H2	Trust $\rightarrow$ Innovation	0.609	0.624	0.076	8.040	0.000
H3	Change Acceptance $\rightarrow$ Replacement	-0.015	-0.082	0.296	0.051	0.960
H4	Innovation $\rightarrow$ Replacement	-0.010	0.032	0.270	0.039	0.969
H5	Trust $\rightarrow$ Replacement	-0.201	-0.175	0.151	1.330	0.183

The analysis revealed mixed support for the hypothesized relationships. Hypothesis 1, proposing a positive effect of AI familiarity on trust in AI, was strongly supported ($\beta = 0.463$, $p < 0.001$), indicating that employees with greater familiarity with AI technologies develop higher levels of trust. Hypothesis 2, positing a positive effect of trust in AI on innovation orientation, was also strongly supported ($\beta = 0.609$, $p < 0.001$), demonstrating that trust serves as a significant antecedent of openness to innovation.

However, Hypothesis 3, which proposed a negative effect of change acceptance on replacement anxiety, was not supported ($\beta = -0.015$, $p = 0.960$). Similarly, Hypothesis 4, positing a negative effect of innovation orientation on replacement anxiety, was not supported ($\beta = -0.010$, $p = 0.969$). These non-significant findings suggest that general openness to change and innovation does not translate into reduced anxiety about job displacement. Finally, Hypothesis 5, proposing a negative effect of trust in AI on replacement anxiety, was not supported ($\beta = -0.201$, $p = 0.183$), indicating that trust in AI as a technology does not significantly alleviate concerns about workforce displacement.

5. Discussion

The findings of this study contribute to the area underlying employee responses to AI implementation in the financial sector. The strong positive relationship between AI familiarity and trust in AI (H1 supported) aligns with established technology acceptance research, confirming that knowledge and experience with technology reduce uncertainty and foster confidence. This finding underscores the importance of educational initiatives and hands-on training in building employee trust toward AI systems. Organizations seeking to facilitate AI adoption should prioritize programs that enhance employees' practical familiarity with AI tools, as this familiarity constitutes a foundational prerequisite for trust formation.

The significant positive effect of trust in AI on innovation orientation (H2 supported) extends the technology acceptance literature by demonstrating that trust operates not merely as a determinant of usage intentions but as a catalyst for broader openness to innovation. Employees who trust AI technologies are more likely to view them as enablers of professional development and performance enhancement rather than as disruptive threats. This finding has important implications for organizational change management, suggesting that building trust in AI can foster a culture of innovation and continuous

improvement.

The lack of significant effects for change acceptance (H3 rejected) and innovation orientation (H4 rejected) on replacement anxiety is particularly noteworthy. These findings suggest that general attitudes toward change and innovation are distinct from specific concerns about job displacement. Employees may be simultaneously open to technological innovation and apprehensive about its employment implications. This decoupling indicates that replacement anxiety stems from sources beyond general change orientation, potentially including perceived job insecurity, lack of alternative employment opportunities, or concerns about skill transferability.

The non-significant relationship between trust in AI and replacement anxiety (H5 rejected) represents one of the most intriguing findings. Contrary to expectations, trust in AI as a technology does not significantly reduce fears of displacement. This suggests that employees distinguish between appreciating AI's capabilities and accepting its potential to substitute human labor. Even employees who trust AI's effectiveness may recognize that these same capabilities render the technology capable of performing tasks currently executed by humans. This ambivalence reflects the fundamental paradox of AI: the more capable and trustworthy the technology, the greater its potential to displace human workers.

5.1. Theoretical Implications

This study advances theoretical understanding of employee responses to AI implementation in several important ways. First, it demonstrates the applicability of technology acceptance frameworks to AI while simultaneously highlighting their limitations. The strong support for the familiarity-trust-innovation relation confirms that established models remain relevant for understanding AI adoption. However, the rejection of hypotheses concerning replacement anxiety indicates that these models require extension to fully capture employee responses to AI.

The findings suggest that replacement anxiety should be conceptualized as a distinct construct within technology acceptance frameworks, with its own antecedents and consequences. While innovation orientation reflects enthusiasm for technological possibilities, replacement anxiety reflects concerns about structural labor market changes. These constructs may be influenced by different factors and may require different interventions. Future theoretical development should incorporate both constructs to provide a comprehensive picture of employee responses to AI.

The study also contributes to understanding of trust in technology. Prior research has often treated trust as a unidimensional construct that uniformly predicts positive outcomes. The finding that trust in AI predicts innovation orientation but not replacement anxiety suggests that trust may have domain-specific effects. Trust in AI's technical capabilities may differ from trust in organizational intentions or labor market institutions. Future research should explore the dimensionality of trust in AI contexts.

5.2. Practical Implications

For organizations implementing AI technologies, this study offers several actionable insights. First, investment in AI education and training programs is essential for building employee trust. The strong relationship between familiarity and trust suggests that organizations should provide comprehensive training that goes beyond simple tool usage to include understanding of AI principles, capabilities, and limitations. Such training should be designed to build appropriate trust, which means confidence in AI's abilities without uncritical acceptance of its outputs.

Second, organizations should recognize that trust-building initiatives focused on AI capabilities may not automatically address employee concerns about displacement. The non-significant relationship between trust and replacement anxiety indicates that separate strategies are needed to address employment concerns. These strategies might include clear communication about the complementary role of AI, commitments to reskilling and redeployment rather than displacement, and transparent discussions about workforce transition plans.

Third, the finding that innovation-oriented employees may still experience replacement anxiety suggests that organizations should not assume that enthusiasm for technology

equates to comfort with employment implications. Managers should engage in open dialogues with employees about both the opportunities and challenges presented by AI, acknowledging concerns rather than dismissing them. Creating psychological safety for employees to express concerns about displacement may be as important as building enthusiasm for innovation.

Fourth, organizations in the financial sector should consider industry-specific approaches to AI implementation that address the particular characteristics of financial work. The regulatory requirements, customer interaction norms, and cognitive complexity of financial decision-making create unique contexts for AI implementation. Strategies that work in other sectors may require adaptation for financial services.

Finally, the findings suggest that organizations should prepare for a workforce that may simultaneously embrace AI-driven innovation and experience anxiety about displacement. This ambivalence is not a sign of employee confusion or resistance but a rational response to the genuine uncertainty surrounding AI's employment implications. Organizations that acknowledge this ambivalence and provide support for both innovation adoption and career transition are likely to navigate AI implementation more successfully than those that expect uniform enthusiasm.

5.3. Limitations and Future Research

This study is subject to several limitations that should be acknowledged and addressed in future research. First, the sample size of 196 respondents, while adequate for PLS-SEM analysis, limits the generalizability of findings. Future research should replicate this study with larger, more diverse samples across multiple sectors and geographic regions to assess the robustness of the findings.

Second, the cross-sectional design precludes causal inferences. The relationships identified in this study represent associations at a single point in time and may not reflect causal processes. Longitudinal studies tracking employee attitudes before, during, and after AI implementation would provide stronger evidence of causal relationships and illuminate how attitudes evolve over time. Such studies could examine whether the relationships identified here change as employees gain more experience with AI technologies.

Third, the study focused primarily on the financial sector, and findings may not generalize to other industries with different technological characteristics and employment structures. The financial sector's data-intensive nature and regulatory environment create specific contexts for AI implementation that may differ from manufacturing, healthcare, retail, or other sectors. Comparative research across sectors would enhance understanding of context-specific factors influencing AI attitudes.

Fourth, the measurement of replacement anxiety focused on individual-level concerns. Future research should examine how organizational factors, such as communication strategies, change management practices, HR policies, and leadership behaviors, moderate the relationships examined in this study. Understanding the organizational conditions under which trust alleviates or exacerbates anxiety would provide valuable guidance for practice.

Fifth, the study did not examine potential moderating effects of individual differences such as age, education level, job tenure, or personality characteristics. Future research should investigate how these demographic and psychological factors influence the relationships between AI familiarity, trust, and employee attitudes. Younger employees, for example, may exhibit different patterns of familiarity and trust than older employees who have spent longer in pre-AI work environments.

Finally, future research should explore the antecedents of replacement anxiety that were not examined in this study. Given the lack of significant relationships with the attitudinal variables examined here, replacement anxiety may be more strongly influenced by structural factors such as perceived labor market conditions, availability of alternative employment, organizational commitment to reskilling, and broader economic trends. Understanding these antecedents is essential for developing effective interventions to address employee concerns.

6. Conclusions

This study provides empirical evidence on the complex relationships between AI familiarity, trust in AI, innovation orientation, change acceptance, and replacement anxiety among employees in the financial sector. The findings demonstrate that while AI familiarity builds trust and trust fosters innovation orientation, these positive attitudinal relations do not extend to the alleviation of replacement anxiety. Employees distinguish between appreciating AI as a technological tool and accepting its potential employment implications, suggesting that trust in AI and anxiety about displacement represent distinct psychological constructs that may coexist within individuals.

The double-edged sword of AI, its capacity to enhance efficiency while threatening displacement, requires nuanced organizational approaches that acknowledge both the opportunities and challenges presented by these transformative technologies. Organizations that invest in building employee familiarity and trust while simultaneously addressing legitimate concerns about employment security are likely to navigate AI implementation more successfully than those that focus on technological adoption.

As AI continues to reshape the landscape of work, understanding and addressing the multifaceted nature of employee responses will be essential for achieving successful and sustainable technological transformation. The findings of this study suggest that this understanding must accommodate the genuine ambivalence that employees experience, which is the capacity to simultaneously appreciate AI's capabilities and fear its consequences. Rather than viewing this ambivalence as a problem to be solved, organizations should recognize it as a rational response to genuine uncertainty and design their implementation strategies accordingly. The future of work will be shaped not only by technological capabilities but by how organizations navigate the human dimensions of AI implementation.

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Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used Kimi 2.5 in order to improve the readability and language of the manuscript. After using this service, the authors reviewed and edited the content as needed and take full responsibility for the content.

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