



# A Review Study on the Formation Factors of AI Anxiety and Its Impact on Employees

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**Abstract.** With the rapid advancement of artificial intelligence (AI) technology, employees are increasingly experiencing "AI anxiety," a multidimensional psychological phenomenon encompassing concerns about job displacement, skill obsolescence, and ethical dilemmas. This study aims to systematically analyze the formative factors of AI anxiety and its psychological and behavioral impacts on employees by integrating four dimensions: technological, occupational, psychological, and sociocultural. Through a literature review, the research reveals that AI anxiety arises from the interplay of job threats, technological complexity, individual psychological traits, and sociocultural contexts, exhibiting a dual-edged effect. On one hand, it may trigger negative outcomes such as diminished self-efficacy and inhibited innovation; on the other hand, it can activate positive mechanisms like adaptive behaviors and enhanced psychological capital. The findings emphasize that organizations should mitigate anxiety through measures such as training and psychological support while channeling it into a driver for innovation, thereby providing a scientific basis for management practices.

**Keywords:** AI Anxiety, Employee Psychological Well-being, Behavioral Impacts, Double-edged Sword Effect.

## 1 Introduction

With the rapid development and widespread application of artificial intelligence (AI) technology, "AI anxiety" has become a prevalent psychological phenomenon among employees. AI anxiety refers to a negative emotional state characterized by worry, unease, and fear, stemming from the perceived potential impact of AI on career development and learning capabilities [1]. This multidimensional socio-psychological issue encompasses not only job displacement risks but also deeper concerns such as skill obsolescence, ethical dilemmas, and identity crises, significantly affecting employees' mental health, behavioral decisions, and organizational effectiveness.

Current research has several limitations: first, it predominantly focuses on the negative consequences of AI anxiety (e.g., job insecurity) while overlooking potential positive effects, such as its role in motivating adaptive behaviors; second, analyses often adopt a single-dimensional perspective (e.g., solely technological or occupa-

tional), lacking an integrated framework to examine interactive effects among multiple factors; third, there is insufficient exploration of the roles of socio-cultural factors and organizational support.

To address these gaps, this study aims to systematically analyze the formation mechanisms and impacts of AI anxiety by integrating multidimensional perspectives, including technological, occupational, psychological, and socio-cultural dimensions. Key research objectives include: (1) constructing a multilevel formation model of AI anxiety; (2) identifying critical formative factors such as occupational threats and technological complexity; and (3) conducting a dialectical analysis of the dual-edged effects of AI anxiety and their boundary conditions. The findings will provide a scientific foundation for theoretical advancement and the development of organizational intervention strategies.

## **2 Definition and Dimensions of AI Anxiety**

### **2.1 Definition**

AI Anxiety refers to a complex psychological response dominated by anxiety or fear that individuals experience during interactions with artificial intelligence (AI), significantly reducing their willingness to adopt AI technologies [2]. Semantically, AI anxiety manifests in two distinct forms: the first is instrumental anxiety, which pertains to concerns about AI replacing specific job roles; the second is ontological anxiety, involving a deeper fear of the dissolution of human agency by technology. Current research indicates that the mechanisms underlying AI anxiety are complex, involving multidimensional interactions at the cognitive, affective, and behavioral levels. Key triggers include misunderstandings about AI technological development, cognitive confusion regarding technological autonomy, a fragmented understanding of socio-technical systems, and profound fears about uncertainties surrounding future careers and social roles.

### **2.2 Dimensions**

AI Anxiety, as a multidimensional socio-psychological phenomenon, can be systematically analyzed through three interrelated dimensions: cognitive, affective, and behavioral. At the cognitive level, this anxiety primarily manifests as technological comprehension deficits and socio-technical blind spots. The former refers to individuals' trust crisis stemming from a lack of understanding of the complexity of artificial intelligence technologies. The latter reflects fragmented perceptions of the co-evolutionary mechanisms between technology and social systems. In the affective dimension, anticipatory anxiety centers on concerns regarding the potential impacts of AI, including occupational displacement risks and algorithmic ethical dilemmas. Meanwhile, annihilation anxiety escalates to an ontological level, encompassing profound fears about AI potentially eroding human uniqueness and autonomy. At the behavioral level, this psychological state externalizes into two typical patterns: The first is interaction avoidance behavior, characterized by resistance to AI technology usage and inhibited

learning engagement due to negative emotions. The second is adaptive dysfunction, which presents as path dependence under technological transformation pressures, wherein individuals rigidly adhere to traditional behavioral paradigms while rejecting technological innovation.

### **3 Formative Factors of AI Anxiety**

AI anxiety refers to the feelings of worry, unease, and fear experienced by individuals in response to the rapid advancement and widespread application of artificial intelligence technologies. The contributing factors to its emergence are multifaceted, encompassing technological, occupational, psychological, and social dimensions, among others. Building upon existing research, this paper categorizes the formative factors of AI anxiety into the following types:

#### **3.1 Occupation-related Factors**

AI-related career anxiety can be summarized into three main dimensions: job security threats, skill obsolescence pressure, and work identity and ethical concerns. Regarding job security threats, workers fear AI will replace repetitive and routine tasks, leading to concerns about job stability and future employability, which creates anxiety about long-term career prospects. In terms of skill obsolescence pressure, the rapid advancement of AI forces employees to continuously update their skills, but differences in learning ability and access to training resources cause stress, particularly for those struggling to keep up. As for work identity and ethical concerns, AI's reshaping of traditional work roles can create existential anxiety, as employees may feel their professional autonomy or value is diminished, leading to a crisis in their sense of purpose and identity at work.

#### **3.2 Technology-related Factors**

AI anxiety stems from several key technological factors. First, the complexity and rapid evolution of AI can overwhelm employees' cognitive capacity, impairing decision-making and fueling stress [3]. Second, fears of losing control over AI systems—and their potential societal and job market disruptions—heighten unease. The mismatch between technological progress and human adaptability also creates uncertainty about AI's long-term effects, intensifying anxiety. Additionally, data-driven AI raises privacy and ethical concerns, eroding trust in information security. Together, these factors structurally contribute to AI anxiety.

#### **3.3 Individual Psychological Factors**

AI anxiety is significantly shaped by psychological factors, particularly personality traits, self-efficacy, and social comparison pressure. Neuroticism and Openness exert opposing effects: highly neurotic individuals, due to emotional instability, are more

prone to AI-related anxiety, whereas those high in Openness, with greater cognitive flexibility, exhibit lower anxiety levels. Low technological self-efficacy undermines confidence in AI adoption, fostering a cycle of rumination and anxiety. Additionally, upward social comparisons in technological competence can heighten anxiety through perceived inadequacy. These factors collectively determine individual differences in AI anxiety responses.

### **3.4 Social and Cultural Factors**

The socio-cultural generative mechanism of AI anxiety can be summarized into three core dimensions: First, the media constructs public perception through the preferential dissemination of risk-framed narratives, where negative coverage and exaggerated risks directly reinforce technophobia. Second, a structural tension exists between technological iteration and cultural adaptation, as the conflict between AI applications and traditional value systems leads to cultural dissonance, triggering individual psychological discomfort [4]. Third, organizational information transmission mechanisms exhibit functional deficiencies, where insufficient policy transparency and lack of communication channels result in cognitive biases, exacerbating collective anxiety. These three dimensions collectively constitute an anxiety reproduction mechanism in the process of technological socialization.

## **4 The Effects of AI Anxiety on Employees' Psychology and Behavior"**

### **4.1 The Impact of AI Anxiety on Employees Psychology**

AI anxiety exerts both positive and negative psychological impacts on employees, with its adverse effects primarily manifesting in three aspects: First, AI anxiety can induce significant cognitive dysfunction. It causes employees to excessively focus on negative self-assessments of their technical competencies, triggering "capability panic." Second, AI anxiety triggers multidimensional stress responses and mental health risks. It activates a multi-channel stress response system, encompassing concerns about technological unemployment, learning fatigue due to skill catch-up pressures, and existential anxiety stemming from career uncertainty. Prolonged accumulation of these stressors may develop into anxiety disorders, depressive symptoms, or occupational burnout syndrome [5]. Third, AI anxiety diminishes employees' self-efficacy. The complexity of AI technologies easily fosters a "technological inferiority complex," manifesting as reduced confidence in learning new technologies, doubts about career transition capabilities, and pessimistic expectations regarding competitiveness maintenance. This creates a vicious cycle of "self-doubt → learning avoidance → skill obsolescence," further exacerbating anxiety levels.

The positive psychological impacts of AI anxiety on employees are primarily manifested in three aspects: Firstly, AI anxiety can activate employees' self-regulatory motivation. Within the framework of adaptive coping strategies, AI anxiety may serve

as a catalyst for self-regulation, prompting employees to cognitively reframe technological challenges as opportunities for career development, thereby stimulating problem-solving-oriented deep thinking. Secondly, AI anxiety of moderate intensity serves an ecological vigilance function, effectively enhancing employees' ability to monitor occupational risks and ultimately forming a positive feedback loop characterized by the "Anxiety-Vigilance-Action" (AVA) cycle. Lastly, with the moderating effect of organizational support systems, AI anxiety may transform into an opportunity for the growth of psychological capital. By adaptively overcoming technological anxiety, employees can achieve hierarchical improvements in psychological resilience and strengthen their professional self-efficacy.

## 4.2 The Impact of AI Anxiety on Employees Behavior

AI anxiety exerts both positive and negative influences on employee behavior, with the negative behavioral impacts encompassing three key dimensions. First, AI anxiety significantly undermines employees' innovative behavior through dual pathways: cognitive resource depletion and knowledge acquisition inhibition. At the cognitive level, affective rumination diminishes individuals' cognitive bandwidth, thereby reducing the generative efficiency of incremental service innovation. At the behavioral level, anxiety-induced defensive avoidance tendencies weaken employees' proactive acquisition of cutting-edge external knowledge, creating cognitive barriers to radical innovation. Second, AI anxiety may trigger irrational resistance toward AI systems, manifesting in multidimensional forms: operational technology avoidance, passive non-cooperation in collaborative contexts, and intentional erroneous input that compromises data quality. Lastly, AI anxiety systematically disrupts career development behaviors, with specific manifestations including: (1) temporally compressed career planning cycles and myopic decision-making frameworks; (2) reduced participation in professional skill development programs; and (3) increased incidence of non-rational job hopping, where transition motivations are primarily anxiety-driven rather than career-oriented.

AI anxiety exerts positive behavioral impacts on employees, primarily manifested in three aspects: First, under specific circumstances, AI anxiety can transform into a driving factor for ambidextrous innovation. When employees adopt adaptive cognitive strategies, such anxiety facilitates the acquisition of heterogeneous knowledge required for radical innovation, while simultaneously stimulating internal knowledge recombination behaviors, thereby enhancing the efficiency of knowledge integration for incremental innovation [6]. Secondly, AI anxiety may trigger an adaptive shift in employees' learning patterns, forming a distinctive "stress-learning" conversion mechanism. This transformation is reflected in: enhanced proactive engagement in terms of learning motivation, improved cross-domain knowledge integration capability in terms of learning scope, and accelerated knowledge renewal cycles in terms of learning efficiency. Lastly, AI anxiety may serve as a critical antecedent variable for triggering job crafting behaviors. Faced with technological disruption pressures, employees tend to proactively adjust three core dimensions—work content, competency requirements, and social relationships: expanding task boundaries to achieve role

extension, updating skill sets to enhance technological adaptability, and restructuring work relationships to optimize collaborative networks.

## 5 Conclusion

This study reveals that AI anxiety is a complex psychological phenomenon shaped by the interplay of multiple factors, including job security threats, skill-upgrading pressures, technological complexity, individual psychological traits, and socio-cultural contexts. Its impact exhibits a characteristic double-edged sword effect: while it may trigger negative psychological consequences such as cognitive dysfunction and reduced self-efficacy, as well as technology resistance behaviors like innovation inhibition, it can also activate positive psychological mechanisms such as self-regulatory motivation and psychological capital enhancement, thereby transforming into adaptive behaviors like ambidextrous innovation drive and job crafting.

The theoretical contribution of this study lies in constructing a multidimensional model of AI anxiety formation, addressing the fragmented limitations of existing research, and proposing a dual-effect framework of AI anxiety, providing an integrative perspective for future studies. In terms of practical implications, the findings offer scientific evidence for organizations to develop targeted intervention strategies, such as alleviating employees' AI anxiety through technical training, psychological support, and cultural adaptation measures, while guiding its transformation into adaptive behaviors and innovation capabilities. Future research could further explore cross-cultural differences in AI anxiety and the specific mechanisms of organizational support in anxiety transformation, thereby deepening the theoretical understanding of AI anxiety and optimizing management practices.

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