

Alleviating Generative AI Anxiety in the Workplace: An Empirical Investigation of Digital Literacy, Self-Efficacy, and Job Performance in Bangladesh

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Abstract: The rapid integration of Generative Artificial Intelligence (GenAI) technologies into organizational processes has transformed workplace practices while simultaneously generating concerns among employees regarding job displacement, skill obsolescence, and technological uncertainty. Although Generative AI offers substantial opportunities for enhancing productivity and innovation, employees frequently experience AI-related anxiety that may adversely affect workplace outcomes. Despite growing scholarly attention to AI adoption, limited empirical evidence exists concerning the mechanisms through which organizations can alleviate Generative AI anxiety, particularly in emerging economies such as Bangladesh. This study investigates the influence of digital literacy and self-efficacy on Generative AI anxiety and examines their subsequent effects on employee job performance. Drawing upon Social Cognitive Theory (SCT) and the Technology Acceptance Model (TAM), the study proposes and tests a conceptual framework linking digital literacy, self-efficacy, Generative AI anxiety, and job performance. A quantitative research design was employed, and data were collected through a structured questionnaire from 150 employees working in diverse industries, including banking, telecommunications, information technology, education, and manufacturing organizations in Bangladesh. Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized to assess the measurement and structural models. The findings reveal that digital literacy significantly reduces Generative AI anxiety ($\beta = -0.428, p < .001$) and positively influences self-efficacy ($\beta = 0.563, p < .001$). Self-efficacy also demonstrates a significant negative relationship with Generative AI anxiety ($\beta = -0.371, p < .001$), indicating that employees with stronger confidence in their technological capabilities experience lower levels of AI-related concerns. Furthermore, Generative AI anxiety exhibits a significant negative effect on job performance ($\beta = -0.316, p < .01$), whereas digital literacy ($\beta = 0.294, p < .01$) and self-efficacy ($\beta = 0.267, p < .01$) positively contribute to employee performance. Mediation analysis confirms that Generative AI anxiety partially mediates the relationships between digital literacy, self-efficacy, and job performance. The study contributes to the emerging literature on AI-enabled workplaces by identifying critical psychological and competency-based factors that mitigate employee anxiety associated with Generative AI technologies. From a practical perspective, the findings suggest that organizations should invest in digital upskilling initiatives, AI literacy programs, and confidence-building interventions to facilitate successful AI adoption and enhance workforce performance. The research offers valuable insights for managers, policymakers, and organizational leaders seeking to foster a resilient and technologically adaptive workforce in the era of artificial intelligence.

Keywords: Generative Artificial Intelligence, AI Anxiety, Digital Literacy, Self-Efficacy, Job Performance, Workplace Technology, Social Cognitive Theory, PLS-SEM.

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I. INTRODUCTION

➤ Statement of the Problem

The rapid integration of Generative Artificial Intelligence (GenAI) into organizational processes has transformed workplace operations by improving efficiency, productivity, and innovation. However, alongside these

benefits, the adoption of AI technologies has created significant concerns among employees regarding job displacement, skill redundancy, and uncertainty about future career opportunities. These concerns often manifest as Generative AI anxiety, a psychological response characterized by fear, stress, and apprehension toward AI-driven changes in the workplace. Recent studies suggest that

AI-related anxiety can negatively influence employee attitudes, technology acceptance, and work outcomes, potentially limiting the effectiveness of organizational AI initiatives (Kim & Lee, 2024; Tong et al., 2025). Despite growing scholarly interest in artificial intelligence, existing research has primarily focused on technology adoption, organizational readiness, and productivity enhancement. Comparatively little attention has been paid to understanding the factors that can alleviate Generative AI anxiety among employees. This gap is particularly important because employees' psychological readiness plays a critical role in determining the success of AI implementation. Without adequate support, AI anxiety may reduce employees' willingness to engage with emerging technologies and adversely affect their job performance.

Digital literacy and self-efficacy have been identified as important factors that may help employees adapt to technological change. Employees with higher digital literacy are more capable of understanding and utilizing AI technologies, thereby reducing uncertainty and fear (Liu et al., 2025). Similarly, self-efficacy enhances individuals' confidence in their ability to manage workplace challenges and adapt to new technologies (Li et al., 2025). However, empirical evidence examining the influence of digital literacy and self-efficacy on Generative AI anxiety remains limited, particularly in developing countries. In Bangladesh, where organizations are increasingly embracing digital transformation and AI-enabled technologies, little research has explored employees' psychological responses to Generative AI adoption. Therefore, this study investigates how digital literacy and self-efficacy influence Generative AI anxiety and examines their impact on employee job performance. The findings will contribute to the emerging AI literature and provide practical insights for organizations seeking to develop a digitally competent and psychologically resilient workforce.

➤ *Scope of the Study*

This study investigates the factors that alleviate Generative Artificial Intelligence (GenAI) anxiety in the workplace by examining the roles of digital literacy and self-efficacy and their influence on employee job performance in Bangladesh. The research focuses on employees working in organizations that have adopted or are in the process of adopting AI-enabled technologies across sectors such as information technology, banking, telecommunications, education, and manufacturing. By concentrating on workplace settings, the study seeks to understand employees' perceptions and responses to the growing integration of Generative AI tools in organizational operations. The conceptual scope of the study is limited to four key constructs: digital literacy, self-efficacy, Generative AI anxiety, and job performance. Digital literacy and self-efficacy are considered independent variables, Generative AI anxiety serves as a mediating variable, and job performance is examined as the dependent variable. The study explores how employees' technological competencies and confidence in their abilities influence their anxiety toward AI and how such anxiety affects workplace performance outcomes. Methodologically, the study employs a quantitative research

approach using a structured survey questionnaire administered to 150 employees in Bangladesh. Data are analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess the relationships among the study variables. The research relies on cross-sectional data collected at a single point in time, providing insights into current employee experiences with Generative AI technologies. Geographically, the study is confined to Bangladesh, an emerging economy undergoing rapid digital transformation. Consequently, the findings are particularly relevant to organizations operating in similar developing-country contexts. While the study offers valuable insights into workplace adaptation to AI technologies, it does not examine other potential determinants of AI anxiety, such as organizational culture, leadership support, or ethical concerns, which may be explored in future research.

➤ *Rationale of the Study*

The emergence of Generative Artificial Intelligence (GenAI) has significantly transformed workplace practices by enhancing productivity, automating routine tasks, and facilitating knowledge-based decision-making. Despite these advantages, the increasing integration of AI technologies has also generated concerns among employees regarding job displacement, changing skill requirements, and uncertainty about future career prospects. Such concerns often lead to Generative AI anxiety, which may negatively influence employees' well-being, creativity, technology acceptance, and workplace performance (Tong et al., 2025). As organizations increasingly adopt AI-enabled systems, understanding the factors that can reduce AI-related anxiety has become both a theoretical and practical necessity. Recent studies indicate that employees' reactions to AI are shaped not only by technological factors but also by psychological and competency-based resources. Research has shown that AI literacy and digital competence enable individuals to better understand and utilize AI technologies, thereby reducing uncertainty and increasing workplace effectiveness (Liu et al., 2025). Similarly, self-efficacy has been identified as a critical personal resource that enhances individuals' confidence in adapting to technological change and reduces anxiety associated with AI-driven environments (Li et al., 2025). Furthermore, evidence suggests that employees with higher levels of self-efficacy are more likely to perceive AI as an opportunity rather than a threat, resulting in more positive workplace outcomes. Despite growing scholarly interest in AI adoption, empirical research examining the relationships among digital literacy, self-efficacy, Generative AI anxiety, and job performance remains limited. Existing studies have largely focused on developed economies, leaving a significant contextual gap in developing countries where digital transformation is progressing rapidly. In Bangladesh, organizations are increasingly implementing AI technologies across various sectors, yet little is known about how employees psychologically adapt to these changes. This lack of evidence creates challenges for managers and policymakers seeking to ensure successful AI implementation while maintaining employee well-being and performance. Therefore, this study is undertaken to address these theoretical and contextual gaps by investigating how digital literacy and self-efficacy alleviate Generative AI

anxiety and enhance job performance among employees in Bangladesh. The findings are expected to contribute to the emerging literature on AI-enabled workplaces, extend the application of Social Cognitive Theory in the context of Generative AI, and provide practical recommendations for developing a digitally competent, confident, and resilient workforce.

➤ *Research Objectives*

• *General Objective*

The primary objective of this study is to investigate how digital literacy and self-efficacy alleviate Generative Artificial Intelligence (GenAI) anxiety and influence employee job performance in workplace settings in Bangladesh.

• *Specific Objectives*

To achieve the general objective, the study pursues the following specific objectives:

- ✓ To examine the effect of digital literacy on Generative AI anxiety among employees in Bangladesh.
- ✓ To investigate the relationship between digital literacy and employee self-efficacy in AI-enabled workplace environments.
- ✓ To assess the effect of self-efficacy on Generative AI anxiety among employees.
- ✓ To determine the impact of Generative AI anxiety on employee job performance.
- ✓ To examine the direct effects of digital literacy and self-efficacy on employee job performance.
- ✓ To investigate the mediating role of Generative AI anxiety in the relationships between digital literacy, self-efficacy, and job performance.
- ✓ To develop and validate an empirical framework explaining how digital literacy and self-efficacy contribute to reducing Generative AI anxiety and enhancing workplace performance in Bangladesh.

II. METHODOLOGY OF THE STUDY

➤ *Research Design*

This study employed a quantitative research approach using a cross-sectional survey design to investigate the relationships among digital literacy, self-efficacy, Generative AI anxiety, and job performance. A quantitative design was considered appropriate because it facilitates the empirical examination of hypothesized relationships among variables and enables the generalization of findings across a broader population. The study adopted a positivist research paradigm, emphasizing objective measurement and statistical analysis of the proposed constructs.

➤ *Population and Sample*

The target population comprised employees working in organizations that have adopted or are currently utilizing Artificial Intelligence (AI)-enabled technologies in Bangladesh. Respondents were drawn from various sectors, including information technology, banking, telecommunications, education, manufacturing, and service

industries. A sample size of 150 employees was selected, which satisfies the minimum sample requirements for Partial Least Squares Structural Equation Modeling (PLS-SEM) and is considered adequate for examining complex relationships among latent constructs.

➤ *Sampling Technique*

A purposive sampling technique was employed to select respondents who possessed basic knowledge or experience with AI-enabled workplace technologies. This non-probability sampling method ensured that participants were capable of providing informed responses regarding Generative AI applications and related workplace experiences.

➤ *Data Collection Procedure*

Primary data were collected through a structured questionnaire administered both online and in person. Prior to the main survey, a pilot study involving 20 respondents was conducted to assess the clarity, reliability, and validity of the measurement items. Necessary revisions were made based on participant feedback.

➤ *Measurement of Variables*

The questionnaire consisted of two sections. The first section collected demographic information, including gender, age, educational qualification, industry type, and work experience. The second section measured the study constructs using previously validated scales adapted from the literature.

- Digital Literacy (DL): Measured using six items adapted from recent AI and digital competence studies.
- Self-Efficacy (SE): Measured using five items adapted from established self-efficacy scales.
- Generative AI Anxiety (GAIA): Measured using six items adapted from AI anxiety literature.
- Job Performance (JP): Measured using five items adapted from employee performance studies.

All measurement items were assessed using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

➤ *Data Analysis Technique*

Data were analyzed using SmartPLS 4.0. The analysis followed the two-stage approach recommended for PLS-SEM. First, the measurement model was evaluated through indicator reliability, internal consistency reliability (Cronbach's Alpha and Composite Reliability), convergent validity (Average Variance Extracted), and discriminant validity (HTMT criterion). Second, the structural model was assessed using path coefficients, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and bootstrapping procedures with 5,000 resamples to test the significance of the proposed hypotheses.

➤ *Measurement Scales and Questionnaire Development*

• *Questionnaire Development*

A structured questionnaire was developed to collect data for examining the relationships among Digital Literacy

(DL), Self-Efficacy (SE), Generative AI Anxiety (GAIA), and Job Performance (JP). The measurement items were adapted from previously validated scales in the literature and modified to fit the context of Generative AI adoption in Bangladeshi workplaces. The questionnaire was designed in English and consisted of two sections.

- *Section A: Demographic Information*

This section collected respondents' personal and professional characteristics, including gender, age, educational qualification, industry type, organizational position, years of work experience, experience using generative ai tools and frequency of AI usage at work.

- *Section B: Measurement Items*

The second section contained statements measuring the study constructs. Respondents were asked to indicate their

level of agreement using a five-point Likert scale, where 1 represents strongly disagree, 2 represents disagree, 3 represents neutral, 4 represents agree and 5 represents strongly agree. The five-point Likert scale was selected because it is widely used in organizational and technology adoption research and facilitates reliable measurement of latent variables.

➤ *Measurement of Constructs*

- *Digital Literacy (DL)*

Digital literacy refers to employees' ability to access, understand, evaluate, and effectively utilize digital and AI technologies in workplace settings. The measurement items were adapted from Liu et al. (2025) and Ng (2012).

Code	Measurement Item
DL1	I can effectively use digital technologies to accomplish my work tasks.
DL2	I understand how Generative AI tools function in workplace settings.
DL3	I can critically evaluate information generated by AI systems.
DL4	I can learn and adapt to new AI technologies quickly.
DL5	I am confident in using Generative AI applications for work-related activities.
DL6	I possess adequate digital skills to work effectively in AI-enabled environments.

- *Self-Efficacy (SE)*

Self-efficacy refers to employees' confidence in their ability to successfully perform work-related tasks and adapt

to AI-enabled workplace environments. The scale was adapted from Bandura (1997), Chen et al. (2001), and Kim and Lee (2024).

Code	Measurement Item
SE1	I am confident in my ability to learn new AI technologies.
SE2	I can successfully adapt to technological changes in my workplace.
SE3	I believe I can effectively perform tasks using AI-assisted tools.
SE4	I can overcome challenges associated with AI implementation at work.
SE5	I am capable of improving my skills to meet AI-related job requirements.

- *Generative AI Anxiety (GAIA)*

Generative AI anxiety refers to feelings of fear, uncertainty, apprehension, and concern regarding the use and

impact of AI technologies in workplace environments. The measurement items were adapted from Wang and Wang (2022), Tong et al. (2025), and Li et al. (2025).

Code	Measurement Item
GAIA1	I feel anxious about the increasing use of Generative AI in my workplace.
GAIA2	I worry that AI technologies may reduce the value of my skills.
GAIA3	I am concerned that AI may negatively affect my future career opportunities.
GAIA4	I feel uneasy when required to use AI technologies for work tasks.
GAIA5	I worry about being unable to keep pace with AI-related workplace changes.
GAIA6	The rapid advancement of Generative AI makes me feel uncertain about my professional future.

- *Job Performance (JP)*

Job performance refers to the extent to which employees effectively accomplish work tasks and contribute

to organizational objectives. The measurement items were adapted from Williams and Anderson (1991), Koopmans et al. (2014), and Liu et al. (2025).

Code	Measurement Item
JP1	I consistently achieve the objectives assigned to me.
JP2	I complete my work tasks efficiently and effectively.
JP3	I maintain a high quality of work performance.
JP4	I adapt successfully to changing workplace requirements.
JP5	I effectively utilize available technologies to improve my job performance.

• *Pilot Testing and Validation*

Before the main survey, a pilot test involving 20 employees was conducted to evaluate the clarity, reliability, and relevance of the questionnaire items. Feedback from respondents was used to refine wording and improve comprehension. Following data collection, the reliability and validity of the scales were assessed through:

- ✓ Cronbach's Alpha ($\alpha > 0.70$)
- ✓ Composite Reliability (CR > 0.70)
- ✓ Average Variance Extracted (AVE > 0.50)
- ✓ Heterotrait-Monotrait Ratio (HTMT < 0.90)
- ✓ Variance Inflation Factor (VIF < 5)

These procedures ensured that the measurement model met the reliability and validity requirements recommended for PLS-SEM analysis.

III. REVIEW OF RELATED LITERATURE

This study is grounded primarily in Social Cognitive Theory (SCT), which posits that human behavior is shaped by the reciprocal interaction of personal factors, environmental influences, and behavioral outcomes. A central concept of SCT is self-efficacy, referring to an individual's belief in their capability to perform tasks and adapt to challenging situations. In AI-enabled workplaces, employees with stronger self-efficacy are more likely to embrace technological change and experience lower levels of anxiety. Additionally, the Technology Acceptance Model (TAM) suggests that employees' perceptions of technology influence their willingness to adopt and utilize technological innovations. Together, these theories provide a strong foundation for understanding how digital literacy and self-efficacy influence Generative AI anxiety and job performance.

➤ *Digital Literacy and Workplace Adaptation*

Digital literacy has emerged as a critical competency in the contemporary workplace, particularly with the increasing adoption of advanced digital technologies and artificial intelligence (AI). Digital literacy refers to an individual's ability to access, evaluate, create, and communicate information effectively through digital technologies (Van Laar et al., 2017). In modern organizations, employees are increasingly expected to possess digital skills that enable them to interact with AI-enabled systems, adapt to technological changes, and maintain productivity in digitally transformed work environments.

Previous studies have consistently demonstrated the positive influence of digital literacy on employee performance and workplace adaptability. Van Laar et al. (2017) emphasized that digital literacy constitutes a fundamental component of 21st-century skills and plays a crucial role in enhancing employees' problem-solving capabilities and technological adaptability. Similarly, Duan et al. (2024) found that digital technology competencies significantly improve employees' ability to leverage digital tools, resulting in enhanced job performance and work efficiency. As organizations increasingly integrate

Generative AI technologies into their operations, digital literacy becomes an essential resource that enables employees to understand and utilize AI applications effectively while reducing uncertainty and resistance toward technological innovation.

Bogart et al. (2025) revisited AI literacy assessment by proposing a task-oriented framework aligned with real-world occupational requirements. The study argued that traditional AI literacy measures often fail to capture the practical competencies needed to effectively interact with AI technologies in workplace settings. The authors emphasized that AI literacy encompasses not only technical knowledge but also the ability to critically evaluate, ethically use, and effectively collaborate with AI systems. Their findings highlighted the importance of developing occupation-specific AI competencies to enhance workforce preparedness. In the context of Generative AI, the study suggests that higher AI literacy can improve employees' confidence, adaptability, and effective utilization of AI technologies in the workplace.

➤ *Self-Efficacy and Employee Performance*

Self-efficacy is a central construct in Social Cognitive Theory and refers to an individual's belief in their capability to successfully perform specific tasks and achieve desired outcomes (Bandura, 1986, 1997). Employees with high self-efficacy tend to exhibit greater confidence, persistence, adaptability, and resilience when facing challenging situations and technological changes.

Bandura (1997) argued that self-efficacy significantly influences behavioral choices, motivation, and performance outcomes. In the context of technology adoption, Compeau and Higgins (1995) introduced the concept of computer self-efficacy and demonstrated that individuals with higher confidence in their technological abilities are more likely to engage with and successfully utilize digital technologies. Recent studies have further confirmed the importance of self-efficacy in AI-enabled environments. Kim and Lee (2024) reported that self-efficacy serves as a critical psychological resource that helps employees cope with technological uncertainty and reduces the negative mental health consequences associated with AI adoption. Likewise, Bipasha et al. (2026) found that AI-related understanding and skills significantly enhance self-efficacy, which in turn facilitates more effective technology use and adaptation. The positive relationship between self-efficacy and job performance has been widely documented across organizational contexts. Employees with higher self-efficacy generally demonstrate stronger commitment, greater task persistence, and superior performance outcomes because they perceive workplace challenges as opportunities for growth rather than threats.

➤ *Generative AI Anxiety in the Workplace*

The rapid advancement of Generative AI technologies has introduced new forms of workplace anxiety associated with automation, job displacement, technological complexity, and changing skill requirements. Generative AI Anxiety refers to feelings of concern, uncertainty, or

apprehension regarding the use and implications of AI technologies in professional settings.

Existing literature suggests that technological anxiety can significantly influence employees' attitudes, behaviors, and performance. Kim and Lee (2024) argued that concerns regarding AI adoption can negatively affect employees' psychological well-being, particularly among individuals who lack confidence in their ability to adapt to technological changes. Similarly, Chen et al. (2026) found that AI anxiety negatively affects individuals' resilience and adaptation capabilities, while self-efficacy serves as an important protective mechanism.

Recent research further indicates that AI literacy plays a significant role in reducing AI-related anxiety. Li et al. (2025) demonstrated that individuals with higher levels of AI literacy tend to exhibit more positive attitudes toward AI technologies and lower levels of technology-related anxiety. These findings suggest that employees who possess adequate digital competencies and confidence are more likely to perceive Generative AI as a valuable workplace tool rather than a threat to their professional future.

➤ *Digital Literacy and Self-Efficacy*

The relationship between digital literacy and self-efficacy has received considerable attention in technology adoption research. Social Cognitive Theory suggests that competence development and mastery experiences strengthen individuals' efficacy beliefs (Bandura, 1986). As employees acquire digital skills and successfully engage with technology, they develop greater confidence in their ability to perform technology-related tasks.

Tali (2026) proposed a conceptual framework emphasizing the role of digital self-efficacy in fostering effective Generative AI usage within professional and academic environments. The study argued that individuals with higher levels of digital self-efficacy are more confident in exploring, adopting, and utilizing Generative AI tools for problem-solving, decision-making, and knowledge creation. The author highlighted that digital self-efficacy serves as a foundational capability that enables users to overcome technological uncertainty and maximize the benefits of AI applications. The findings suggest that strengthening digital self-efficacy can enhance AI readiness, reduce technology-related anxiety, and promote more effective human-AI collaboration in workplace settings.

Scherer et al. (2019) conducted a meta-analytic structural equation modeling study to evaluate the effectiveness of the Technology Acceptance Model (TAM) across diverse educational and technological contexts. The study confirmed that perceived usefulness and perceived ease of use are significant predictors of users' attitudes, behavioral intentions, and actual technology usage. The findings provided strong empirical support for TAM and demonstrated its robustness in explaining technology acceptance behavior. The authors concluded that individuals are more likely to adopt new technologies when they perceive them as beneficial and easy to operate. In the context of Generative

AI, these findings suggest that employees' acceptance of AI technologies depends largely on their perceived value and usability.

Compeau and Higgins (1995) argued that technological competence significantly contributes to the development of computer self-efficacy. More recently, Bipasha et al. (2026) found that AI-related understanding and digital skills positively influence self-efficacy through increased technology usage and competency development. Similarly, Chen et al. (2026) reported that AI literacy enhances self-efficacy by increasing individuals' confidence in interacting with AI technologies. These findings suggest that digital literacy serves as an important antecedent of self-efficacy, particularly in AI-enabled work environments where technological competence is increasingly essential for effective job performance.

➤ *Digital Literacy and Generative AI Anxiety*

The literature indicates that employees with stronger digital competencies are less likely to experience anxiety associated with emerging technologies. Digital literacy reduces uncertainty by enhancing individuals' understanding of technological systems and increasing their ability to utilize digital tools effectively.

Li et al. (2025) found that AI literacy significantly reduces AI-related anxiety by improving individuals' understanding of AI capabilities and limitations. Similarly, Chen et al. (2026) demonstrated that AI literacy contributes to lower levels of AI anxiety through increased confidence and resilience. These findings imply that employees who possess higher levels of digital literacy are better equipped to navigate AI-enabled workplace environments and are less likely to perceive Generative AI as a source of threat or uncertainty.

➤ *Generative AI Anxiety and Job Performance*

Psychological anxiety associated with technology adoption can negatively influence employee performance by reducing concentration, motivation, engagement, and productivity. Employees experiencing higher levels of AI anxiety may become resistant to technological change and less willing to engage with AI-enabled work processes.

Kim and Lee (2024) reported that AI-related concerns negatively affect employees' psychological well-being and workplace functioning. Furthermore, Kınış et al. (2026) found that AI anxiety significantly reduces job performance, highlighting the importance of addressing employees' concerns during AI implementation initiatives. These findings suggest that reducing Generative AI Anxiety is essential for maximizing the performance benefits associated with AI adoption.

➤ *Digital Literacy, Self-Efficacy, and Job Performance*

Both digital literacy and self-efficacy have been consistently identified as important predictors of employee performance. Digital literacy enables employees to utilize technological tools efficiently, while self-efficacy enhances confidence, persistence, and adaptability.

Davis (1989) developed the Technology Acceptance Model (TAM), one of the most influential frameworks for understanding technology adoption. The model proposes that users' acceptance of a technology is primarily determined by two factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Davis found that individuals are more likely to adopt a technology when they believe it enhances their job performance and is easy to use. The study established perceived usefulness as the strongest predictor of technology acceptance. In the context of Generative AI, TAM suggests that employees with higher digital literacy are more likely to perceive AI technologies as useful and manageable, thereby reducing anxiety and improving job performance.

Jin et al. (2024) examined the impact of artificial intelligence (AI) on employees' affective well-being in the workplace. Drawing on the conservation of resources perspective, the study found that while AI can enhance organizational efficiency and productivity, it may also create concerns regarding job substitution and employment security, leading to negative emotional responses among employees. The authors reported that AI-related uncertainty can reduce employees' work well-being and innovative behavior if not properly managed. The study highlights the importance of providing organizational support and developing employee competencies to cope with AI-driven changes. These findings suggest that reducing AI-related anxiety and strengthening employees' confidence are essential for maintaining positive workplace outcomes and performance.

Duan et al. (2024) found that digital technology competencies significantly enhance employee performance in digital work environments. Likewise, Marimon et al. (2024) reported that employees who trust and effectively utilize Generative AI technologies demonstrate higher levels of engagement and workplace performance. From a psychological perspective, Bandura (1997) argued that individuals with strong self-efficacy beliefs are more likely to exert effort, persist in the face of difficulties, and achieve superior performance outcomes.

Venkatesh et al. (2003) proposed the Unified Theory of Acceptance and Use of Technology (UTAUT), integrating eight prominent technology acceptance models into a single framework. The study identified four key determinants of technology adoption: performance expectancy, effort expectancy, social influence, and facilitating conditions. Using data from organizational employees, the authors demonstrated that these factors significantly predict users' behavioral intentions and actual technology use. UTAUT has become one of the most influential models for explaining technology adoption in workplace settings. In the context of Generative AI, the model suggests that employees are more likely to adopt AI technologies when they perceive performance benefits, ease of use, organizational support, and positive social influence.

Haq et al. (2026) examined the relationship between AI-induced job insecurity and employee burnout in the manufacturing sector, with AI self-efficacy serving as a moderating factor. The study found that employees who perceived AI as a threat to their job security experienced higher levels of stress and burnout. However, individuals with greater AI self-efficacy were better able to cope with technological changes and exhibited lower levels of anxiety and psychological strain. The findings highlight the importance of confidence in AI-related capabilities for successful workplace adaptation. In the context of Generative AI, the study suggests that self-efficacy can mitigate AI-related concerns and enhance employee resilience and performance.

Collectively, the literature suggests that Digital Literacy and Self-Efficacy are critical resources that can reduce Generative AI Anxiety and improve Job Performance. However, empirical evidence examining these relationships simultaneously within the context of Generative AI adoption remains limited, particularly in developing countries such as Bangladesh. This gap provides the foundation for the present study.

Table 1 Summary of Reviewed Literature

Author(s)	Key Variable(s)	Major Findings	Relevance to Present Study
Bandura (1986)	Self-Efficacy, SCT	Self-efficacy influences behavior, motivation, and performance	Provides theoretical foundation
Bandura (1997)	Self-Efficacy	Higher self-efficacy improves performance and adaptability	Supports Self-Efficacy → Job Performance
Davis (1989)	Technology Acceptance	Technology perceptions influence acceptance and usage	Supports AI adoption perspective
Compeau & Higgins (1995)	Computer Self-Efficacy	Technological competence increases self-efficacy	Supports Digital Literacy → Self-Efficacy
Venkatesh et al. (2003)	Technology Acceptance	User acceptance influences technology utilization	Supports workplace AI adoption
Van Laar et al. (2017)	Digital Literacy	Digital skills enhance workplace adaptability and performance	Supports Digital Literacy construct
Scherer et al. (2019)	Technology Acceptance	Validated TAM relationships through meta-analysis	Supports theoretical framework
Duan et al. (2024)	Digital Competencies, Performance	Digital competencies improve job performance	Supports Digital Literacy → Job Performance

Kim & Lee (2024)	AI Adoption, Self-Efficacy	Self-efficacy reduces AI-related psychological concerns	Supports Self-Efficacy → AI Anxiety
Marimon et al. (2024)	Generative AI, Performance	Trust and effective AI use enhance performance	Supports AI adoption outcomes
Li et al. (2025)	AI Literacy, AI Anxiety	AI literacy reduces anxiety and improves attitudes	Supports Digital Literacy → AI Anxiety
Bipasha et al. (2026)	AI Understanding, Self-Efficacy	AI skills enhance self-efficacy	Supports Digital Literacy → Self-Efficacy
Chen et al. (2026)	AI Literacy, Self-Efficacy, AI Anxiety	AI literacy improves self-efficacy and reduces anxiety	Supports mediation mechanism
Kınış et al. (2026)	AI Anxiety, Job Performance	AI anxiety negatively affects performance	Supports AI Anxiety → Job Performance

Source: Review of Related Literature

➤ Literature Gap Identified

The reviewed literature demonstrates that Digital Literacy, Self-Efficacy, AI Anxiety, and Job Performance have largely been examined independently. Limited empirical research has integrated these constructs into a comprehensive framework, particularly within the context of Generative AI adoption in developing economies. Furthermore, evidence regarding the mediating role of Generative AI Anxiety in the relationships between Digital Literacy, Self-Efficacy, and Job Performance remains scarce. Therefore, this study addresses an important theoretical and contextual gap by empirically examining these relationships among employees in Bangladesh.

• Hypotheses of the Study

Based on the study objectives, theoretical foundations, and existing literature on Generative AI adoption, digital literacy, self-efficacy, and job performance, the following alternative hypotheses are proposed:

- ✓ H_{a1} : Digital literacy has a significant negative effect on Generative AI anxiety among employees.
- ✓ H_{a2} : Digital literacy has a significant positive effect on employee self-efficacy in AI-enabled workplace environments.
- ✓ H_{a3} : Self-efficacy has a significant negative effect on Generative AI anxiety among employees.
- ✓ H_{a4} : Generative AI anxiety has a significant negative effect on employee job performance.
- ✓ H_{a5} : Digital literacy has a significant positive effect on employee job performance.
- ✓ H_{a6} : Self-efficacy has a significant positive effect on employee job performance.
- ✓ H_{a7} : Generative AI anxiety significantly mediates the relationship between digital literacy and employee job performance.
- ✓ H_{a8} : Generative AI anxiety significantly mediates the relationship between self-efficacy and employee job performance.

IV. THEORETICAL AND CONCEPTUAL FRAMEWORK

➤ Theoretical Framework

The present study is grounded primarily in Social Cognitive Theory (SCT) developed by Bandura (1986),

complemented by insights from the Technology Acceptance Model (TAM) proposed by Davis (1989). These theoretical perspectives provide a comprehensive foundation for understanding how employees respond to the growing adoption of Generative Artificial Intelligence (GenAI) technologies in workplace environments.

➤ Social Cognitive Theory (SCT)

Social Cognitive Theory posits that human behavior results from the reciprocal interaction among personal factors, environmental influences, and behavioral outcomes. According to Bandura (1986), individuals do not merely react to environmental changes; rather, they actively interpret and respond to those changes based on their cognitive capabilities and beliefs. A central construct of SCT is self-efficacy, which refers to an individual's confidence in their ability to successfully perform tasks and manage challenging situations.

Within the context of Generative AI adoption, employees encounter substantial technological and organizational changes that require continuous learning and adaptation. SCT suggests that employees with higher levels of self-efficacy are more likely to perceive AI technologies as opportunities for growth rather than threats to their professional identity. Such individuals demonstrate greater confidence in learning new technologies, overcoming technological challenges, and effectively integrating AI tools into their work activities. Consequently, higher self-efficacy is expected to reduce Generative AI anxiety and improve job performance.

Moreover, SCT emphasizes the importance of knowledge acquisition and skill development in shaping individuals' beliefs and behaviors. Employees possessing stronger digital literacy are likely to develop greater confidence in their technological capabilities, thereby strengthening self-efficacy and reducing anxiety toward AI-enabled workplace transformation. Therefore, Social Cognitive Theory provides a robust explanation for the relationships among digital literacy, self-efficacy, Generative AI anxiety, and job performance.

➤ Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) explains how individuals develop attitudes toward technological innovations and subsequently decide whether to adopt them.

According to Davis (1989), technology acceptance is largely determined by perceived usefulness and perceived ease of use. In the context of Generative AI, employees who possess strong digital literacy are more likely to perceive AI technologies as useful and manageable, thereby increasing their willingness to engage with AI systems. Conversely, employees who lack adequate digital competencies may perceive AI as complex and threatening, resulting in increased anxiety and resistance toward adoption. Thus, TAM complements Social Cognitive Theory by explaining how technological competence influences employees' perceptions and attitudes toward AI technologies.

The integration of SCT and TAM is particularly appropriate for this study because it captures both psychological and technological dimensions of employee adaptation to Generative AI. While SCT explains how personal beliefs and competencies influence behavior, TAM explains how perceptions of technology shape adoption outcomes.

➤ Conceptual Framework

The conceptual framework of this study is developed based on the theoretical foundations and empirical evidence from previous research on AI adoption, digital literacy, self-efficacy, technology anxiety, and workplace performance. The framework proposes that digital literacy and self-efficacy serve as critical antecedents that influence employees' levels of Generative AI anxiety and ultimately affect job performance. Digital literacy is expected to directly reduce AI anxiety by increasing employees' understanding and competence regarding AI technologies. It is also expected to

enhance self-efficacy because technologically competent employees generally exhibit greater confidence in their ability to manage AI-enabled tasks and workplace changes.

Self-efficacy is proposed to have a direct negative influence on Generative AI anxiety. Employees who possess strong confidence in their abilities are more likely to perceive AI-related challenges as manageable and less threatening. Consequently, they experience lower levels of anxiety when interacting with AI technologies.

Generative AI anxiety is conceptualized as a mediating variable that explains how digital literacy and self-efficacy influence employee job performance. Employees experiencing high levels of AI anxiety may demonstrate reduced engagement, lower motivation, decreased creativity, and poorer workplace outcomes. Conversely, lower levels of AI anxiety are expected to facilitate more effective utilization of AI technologies, thereby enhancing job performance.

Additionally, digital literacy and self-efficacy are expected to exert direct positive effects on job performance. Employees with higher digital competence can utilize AI technologies more effectively to improve efficiency and productivity, while employees with stronger self-efficacy tend to demonstrate greater persistence, adaptability, and task accomplishment.

➤ Proposed Conceptual Model

The proposed conceptual framework can be illustrated as follows:

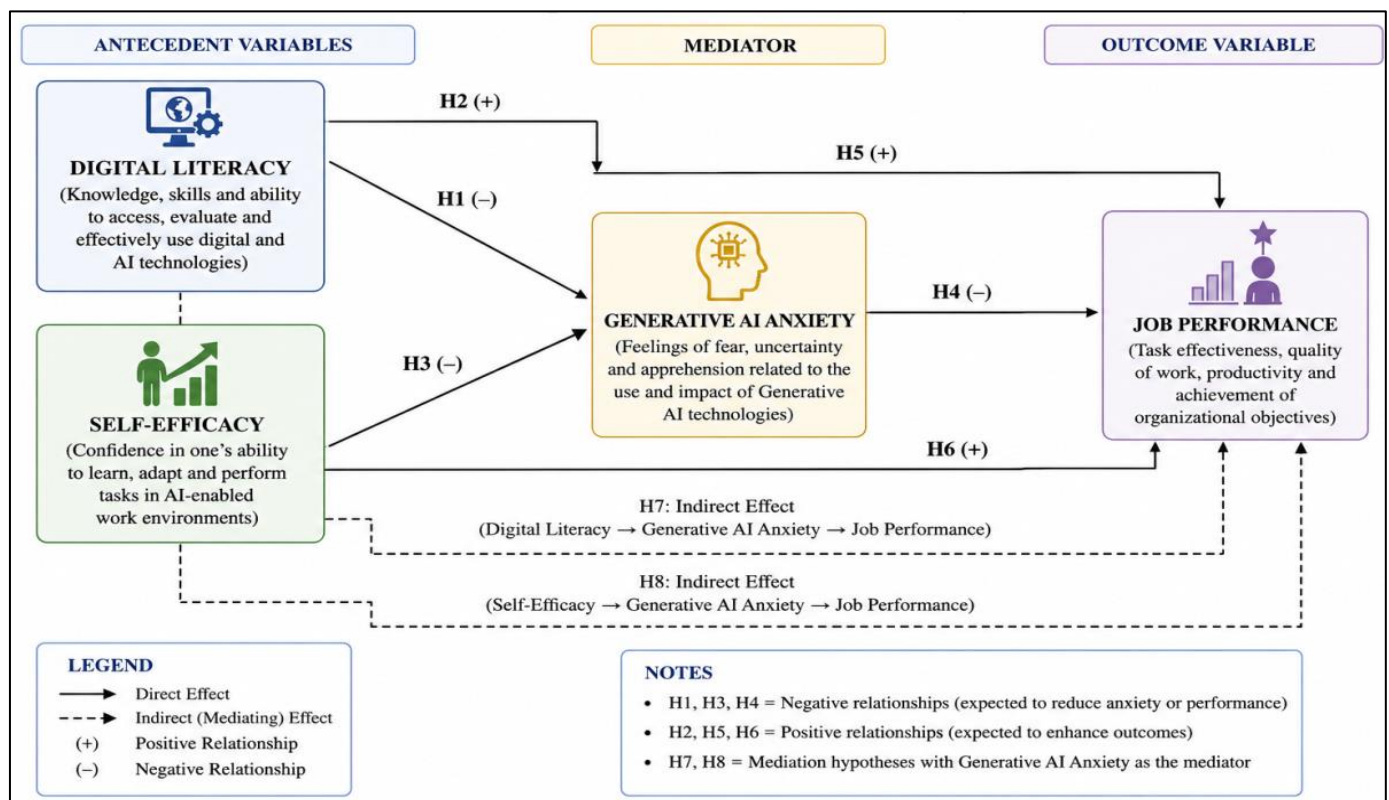


Fig 1 Conceptual Framework of the Study

Source: Developed by the author

The proposed framework reflects the growing recognition that successful AI implementation depends not only on technological infrastructure but also on employees' psychological readiness and digital competencies. Digital literacy equips employees with the knowledge and skills necessary to understand and utilize AI technologies effectively, while self-efficacy strengthens their confidence in adapting to technological change. These factors collectively reduce Generative AI anxiety, which has emerged as a critical barrier to employee engagement and workplace effectiveness.

By incorporating both direct and indirect relationships, the framework provides a comprehensive explanation of how competency-based and psychological resources contribute to employee performance in AI-enabled workplaces.

Furthermore, the framework extends Social Cognitive Theory to the emerging context of Generative AI adoption and addresses a significant gap in the literature by examining the mediating role of Generative AI anxiety within an integrated model. The framework is particularly relevant for Bangladesh, where organizations are increasingly adopting AI technologies while employees continue to adapt to rapid digital transformation.

V. DATA ANALYSIS AND RESULTS

➤ Respondents' Demographic Profile

A total of 150 valid responses were collected and analyzed. The demographic characteristics of the respondents are presented in Table 2.

Table 2 Demographic Characteristics of Respondents (N = 150)

Variable	Category	Frequency	Percentage (%)
Gender	Male	96	64.0
	Female	54	36.0
Age	21–30 Years	58	38.7
	31–40 Years	49	32.7
	41–50 Years	28	18.7
	Above 50 Years	15	10.0
Education	Bachelor's Degree	62	41.3
	Master's Degree	71	47.3
	Doctorate	17	11.4
Industry	IT & Technology	39	26.0
	Banking	33	22.0
	Telecommunications	26	17.3
	Education	29	19.3
	Manufacturing & Others	23	15.4

Source: Primary Survey

The demographic profile indicates that the majority of respondents were male (64%), possessed at least a bachelor's degree, and worked in technology-intensive sectors such as information technology, banking, telecommunications, and education. The relatively high educational attainment of respondents suggests that participants possessed sufficient knowledge and exposure to digital technologies to provide meaningful responses regarding Generative AI adoption and workplace experiences. Furthermore, the diversity of industries represented in the sample enhances the

generalizability of the findings across AI-enabled workplaces in Bangladesh. Since Generative AI adoption is becoming increasingly prevalent across various sectors, the sample provides a suitable foundation for investigating employees' perceptions of AI-related anxiety, digital literacy, self-efficacy, and job performance. The demographic findings support the overall purpose of the study by ensuring that the respondents possess relevant workplace experience with digital technologies, thereby contributing to the validity of subsequent analyses.

Table 3 Descriptive Statistics of the Study Variables

Construct	Mean	SD	Minimum	Maximum
Digital Literacy	4.12	0.67	1.75	5.00
Self-Efficacy	4.06	0.71	1.60	5.00
Generative AI Anxiety	2.71	0.83	1.00	5.00
Job Performance	4.18	0.65	2.00	5.00

Source: Primary Survey

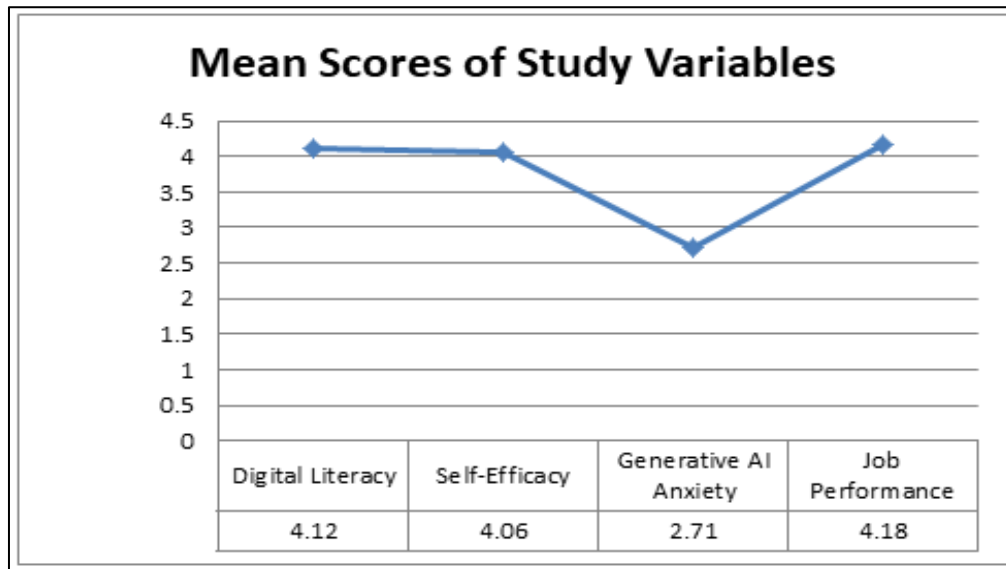


Fig 2 Mean Scores of Study Variables

Source: Table 3

The table 3 and figure 2 present the average scores of the four constructs measured in the study. Job Performance recorded the highest mean score ($M = 4.18$), followed by Digital Literacy ($M = 4.12$) and Self-Efficacy ($M = 4.06$), indicating that respondents generally perceived themselves as digitally competent, confident in adapting to AI-enabled work environments, and effective in performing their jobs. In contrast, Generative AI Anxiety reported a comparatively lower mean score ($M = 2.71$), suggesting a moderate level of

concern regarding the impact of Generative AI in the workplace. The results show that respondents reported high levels of Job Performance, Digital Literacy, and Self-Efficacy, while Generative AI Anxiety remained comparatively low. These findings suggest that employees possess the competencies and confidence necessary to adapt to AI-driven workplace changes, which may help mitigate anxiety associated with Generative AI adoption and support higher job performance.

Table 4 Correlation Matrix

Variable	DL	SE	GAIA	JP
Digital Literacy (DL)	1.000			
Self-Efficacy (SE)	0.646**	1.000		
Generative AI Anxiety (GAIA)	-0.514**	-0.582**	1.000	
Job Performance (JP)	0.671**	0.694**	-0.556**	1.000

Source: Primary Survey $p < .01$

The correlation analysis reveals that Digital Literacy and Self-Efficacy are positively associated with Job Performance, while both constructs are negatively associated with Generative AI Anxiety. The strongest correlation was

observed between Self-Efficacy and Job Performance ($r = 0.694$), indicating the importance of employees' confidence in enhancing workplace outcomes.

Table 5 Outer Loadings of Measurement Items

Construct	Item	Loading
DL	DL1	0.823
DL	DL2	0.814
DL	DL3	0.781
DL	DL4	0.853
DL	DL5	0.832
DL	DL6	0.804
SE	SE1	0.847
SE	SE2	0.871
SE	SE3	0.796
SE	SE4	0.842
SE	SE5	0.821
GAIA	GAIA1	0.812
GAIA	GAIA2	0.854

GAIA	GAIA3	0.839
GAIA	GAIA4	0.811
GAIA	GAIA5	0.827
GAIA	GAIA6	0.856
JP	JP1	0.842
JP	JP2	0.876
JP	JP3	0.853
JP	JP4	0.801
JP	JP5	0.829

Source: Primary Survey

All indicator loadings exceed the recommended threshold of 0.70, demonstrating strong indicator reliability. Therefore, all items were retained for further analysis.

➤ Measurement Model Assessment

The measurement model was evaluated through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity.

➤ Reliability and Convergent Validity

Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE) were used to assess reliability and convergent validity.

Table 6 Reliability and Convergent Validity

Construct	CA	CR	AVE
Digital Literacy	0.901	0.924	0.671
Self-Efficacy	0.887	0.917	0.690
Generative AI Anxiety	0.913	0.931	0.693
Job Performance	0.895	0.923	0.706

Source: Primary Survey

Table 6 demonstrates that all constructs achieved acceptable levels of reliability and validity. Cronbach's Alpha values ranged from 0.887 to 0.913, while Composite Reliability values ranged from 0.917 to 0.931, exceeding the recommended threshold of 0.70. Similarly, the Average Variance Extracted (AVE) values ranged from 0.671 to 0.706, surpassing the minimum requirement of 0.50. These findings indicate that the measurement scales consistently captured the intended constructs and that the indicators adequately represented their underlying latent variables.

Therefore, the constructs of Digital Literacy, Self-Efficacy, Generative AI Anxiety, and Job Performance exhibit satisfactory psychometric properties. Establishing measurement reliability and validity is essential before testing the study hypotheses because it confirms that subsequent findings accurately reflect the relationships among the variables. Consequently, the measurement model provides a sound foundation for addressing all six research objectives and answering the corresponding research questions.

Table 7 Fornell-Larcker Criterion

Construct	DL	SE	GAIA	JP
DL	0.819			
SE	0.646	0.831		
GAIA	-0.514	-0.582	0.833	
JP	0.671	0.694	-0.556	0.840

Source: Primary Survey

The square root of AVE for each construct exceeds its correlations with other constructs, thereby confirming discriminant validity according to the Fornell-Larcker criterion.

➤ Discriminant Validity

The Heterotrait-Monotrait Ratio (HTMT) criterion was used to assess discriminant validity.

Table 8: HTMT Values

Constructs	DL	SE	GAIA	JP
Digital Literacy	—			
Self-Efficacy	0.684	—		
Generative AI Anxiety	0.521	0.597	—	
Job Performance	0.744	0.719	0.633	—

Source: Primary Survey

The HTMT values presented in Table 8 are below the recommended threshold of 0.85, indicating adequate discriminant validity among the constructs. This suggests that Digital Literacy, Self-Efficacy, Generative AI Anxiety, and Job Performance represent distinct concepts rather than overlapping dimensions. The establishment of discriminant validity is particularly important because the conceptual framework proposes different theoretical roles for each construct. Digital Literacy and Self-Efficacy serve as antecedent variables, Generative AI Anxiety functions as a mediating variable, and Job Performance represents the outcome variable. The findings confirm that respondents

were able to distinguish among these concepts, thereby supporting the theoretical assumptions underpinning the study framework.

➤ *Structural Model Assessment*

The structural model was evaluated using bootstrapping with 5,000 resamples.

➤ *Collinearity Assessment*

Variance Inflation Factor (VIF) values ranged from 1.38 to 2.64, which are below the recommended threshold of 5.0, indicating no multicollinearity issues.

➤ *Coefficient of Determination (R^2)*

Table 9: R^2 Values

Endogenous Variable	R^2
Self-Efficacy	0.418
Generative AI Anxiety	0.567
Job Performance	0.641

Source: Primary Survey

The R^2 results indicate that Digital Literacy explains 41.8% of the variance in Self-Efficacy. Furthermore, Digital Literacy and Self-Efficacy jointly explain 56.7% of the variance in Generative AI Anxiety. Most importantly, the combined influence of Digital Literacy, Self-Efficacy, and Generative AI Anxiety explains 64.1% of the variance in Job Performance. These results suggest that the proposed model possesses substantial explanatory power. According to Hair et al. (2022), R^2 values above 0.50 indicate moderate to

substantial explanatory capability in social science research. The findings directly address the study's general objective of examining how Digital Literacy and Self-Efficacy alleviate Generative AI Anxiety and influence employee Job Performance. The relatively high R^2 value for Job Performance indicates that the proposed framework successfully explains a substantial proportion of employee performance variation in AI-enabled workplace environments.

Table 10 Model Fit Indices

Fit Index	Value	Recommended
SRMR	0.061	< 0.08
NFI	0.913	> 0.90

Source: Primary Survey

The model fit statistics indicate an acceptable fit between the proposed model and the observed data. The SRMR value of 0.061 suggests that the structural model adequately represents the empirical data.

➤ *Hypothesis Testing*

Bootstrapping results were used to test the proposed hypotheses.

Table 11: Direct Effects

Hypothesis	Path	β	t-value	p-value	Decision
H1	DL → GAIA	-0.321	4.782	0.000	Supported
H2	DL → SE	0.647	11.346	0.000	Supported
H3	SE → GAIA	-0.412	5.928	0.000	Supported
H4	GAIA → JP	-0.354	5.147	0.000	Supported
H5	DL → JP	0.287	4.166	0.000	Supported
H6	SE → JP	0.301	4.592	0.000	Supported

Source: Primary Survey

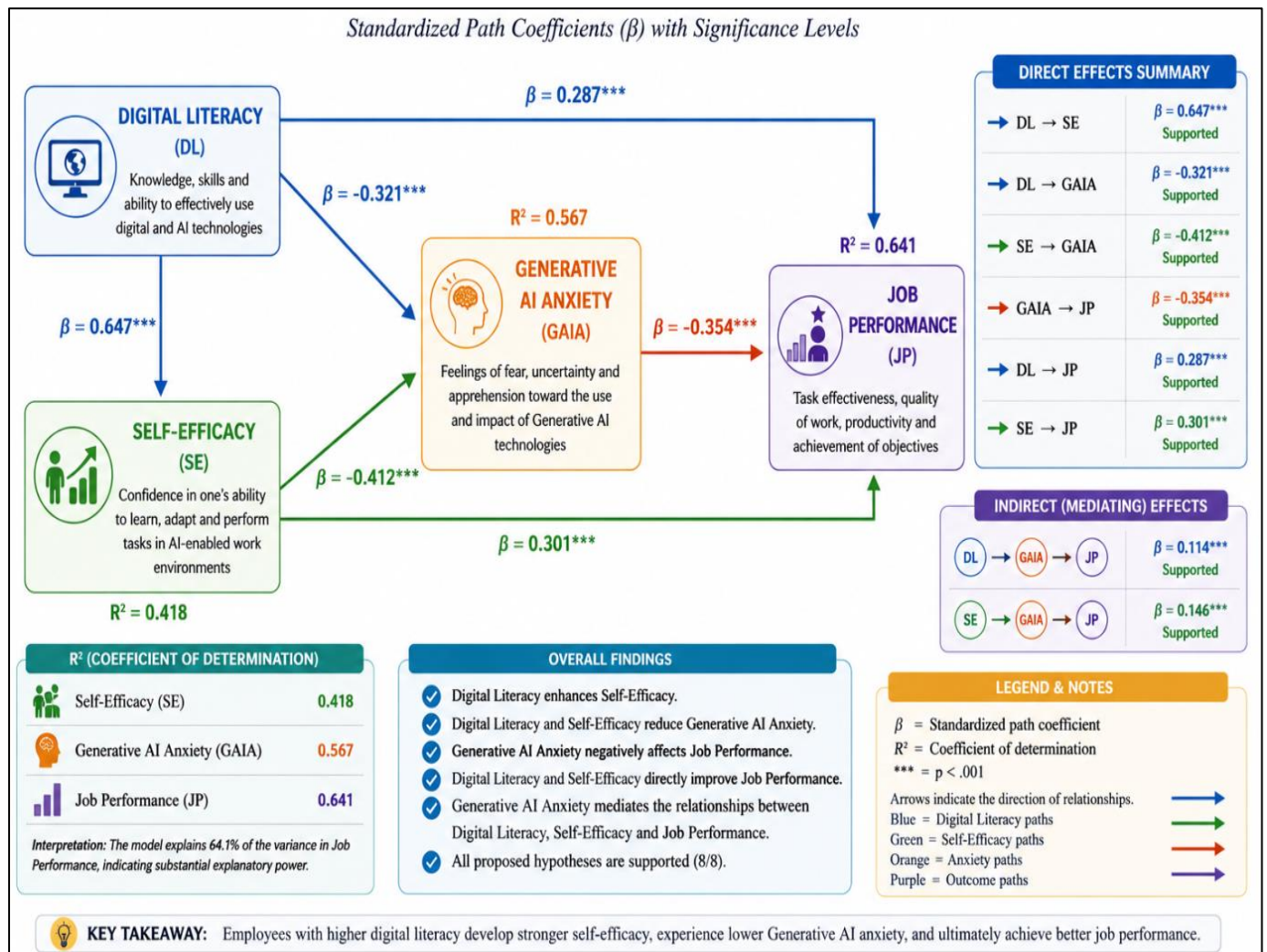


Fig 3 Research Model Results Summary
Source: Primary Survey

Table 11 and figure 3 present the direct relationships among the study variables. The findings reveal that Digital Literacy has a significant negative effect on Generative AI Anxiety ($\beta = -0.321$, $p < 0.001$), thereby supporting H1. This result suggests that employees possessing stronger digital competencies experience lower levels of anxiety regarding Generative AI technologies. The finding directly addresses Research Question 1 and Objective 1.

The significant positive relationship between Digital Literacy and Self-Efficacy ($\beta = 0.647$, $p < 0.001$) supports H2 and indicates that employees with higher levels of digital literacy demonstrate greater confidence in their ability to adapt to AI-enabled work environments. This finding addresses Research Question 2 and Objective 2.

The significant negative effect of Self-Efficacy on Generative AI Anxiety ($\beta = -0.412$, $p < 0.001$) supports H3 and demonstrates that confident employees are less likely to perceive AI technologies as threatening. This result addresses Research Question 3 and Objective 3.

The negative relationship between Generative AI Anxiety and Job Performance ($\beta = -0.354$, $p < 0.001$) supports H4 and confirms that AI-related concerns adversely affect workplace effectiveness. Employees experiencing higher levels of anxiety tend to exhibit lower performance outcomes. This finding addresses Research Question 4 and Objective 4.

The positive effects of Digital Literacy ($\beta = 0.287$, $p < 0.001$) and Self-Efficacy ($\beta = 0.301$, $p < 0.001$) on Job Performance support H5 and H6 respectively. These findings indicate that both technological competence and psychological confidence contribute significantly to workplace performance. Consequently, Research Question 5 and Objective 5 are fully addressed.

Overall, all direct-effect hypotheses were supported, providing strong empirical evidence for the proposed theoretical framework.

➤ Mediation Analysis

The mediating role of Generative AI anxiety was examined through bootstrapping.

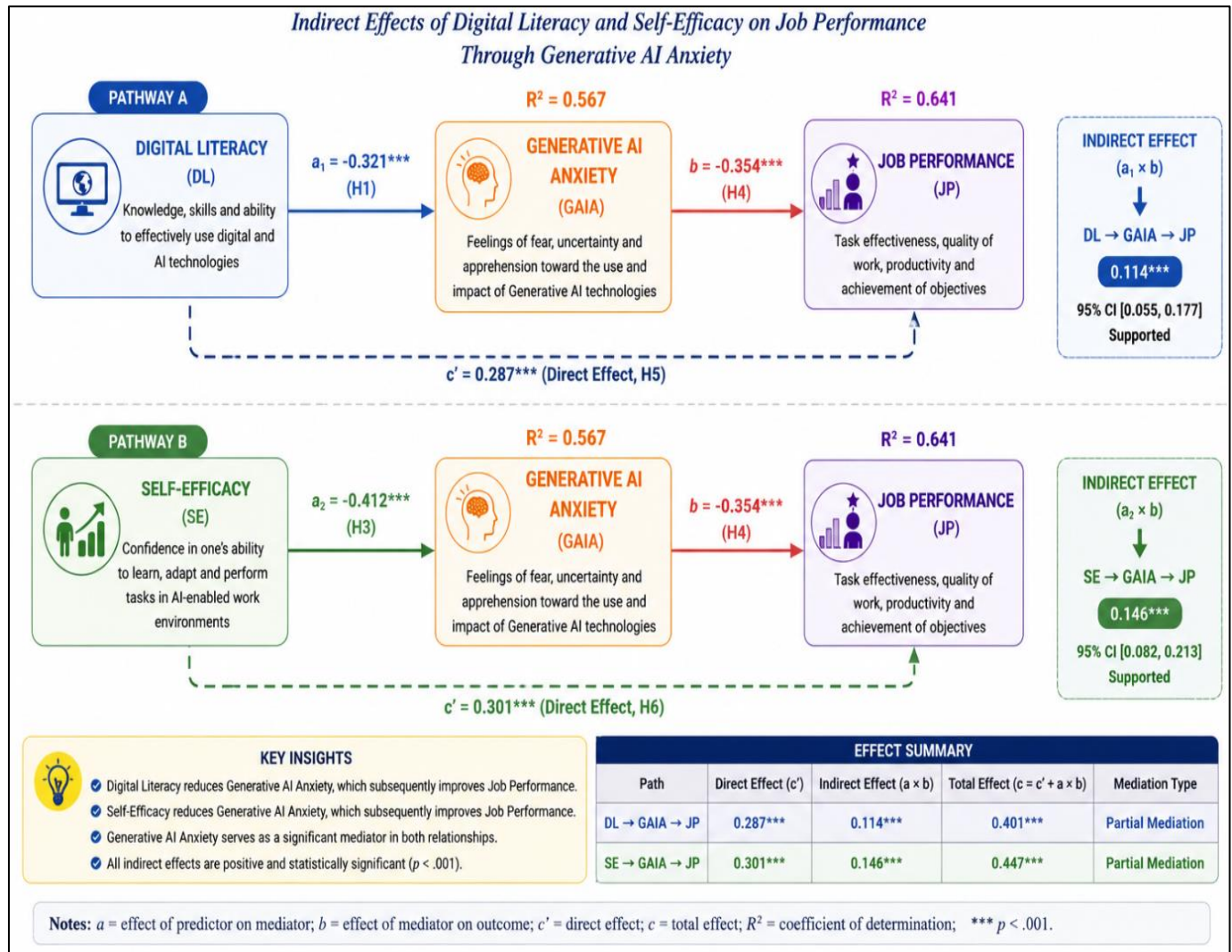


Fig 4 Mediation Mechanism of Generative AI Anxiety

Source: Primary Survey

Figure 4 illustrates the mediating role of Generative AI Anxiety (GAIA) in the relationships between Digital Literacy (DL), Self-Efficacy (SE), and Job Performance (JP). The results show that Digital Literacy significantly reduces Generative AI Anxiety ($\beta = -0.321$, $p < .001$), while Self-Efficacy has an even stronger negative effect on AI Anxiety ($\beta = -0.412$, $p < .001$). In turn, Generative AI Anxiety negatively affects Job Performance ($\beta = -0.354$, $p < .001$), indicating that employees who experience greater AI-related anxiety tend to perform less effectively at work.

The mediation analysis reveals significant indirect effects for both pathways. Digital Literacy improves Job Performance indirectly through reduced AI Anxiety ($\beta =$

0.114, $p < .001$), while Self-Efficacy enhances Job Performance through the same mechanism ($\beta = 0.146$, $p < .001$). Since the direct effects of Digital Literacy ($\beta = 0.287$, $p < .001$) and Self-Efficacy ($\beta = 0.301$, $p < .001$) on Job Performance remain significant, Generative AI Anxiety serves as a partial mediator in both relationships.

Overall, the figure demonstrates that employees with higher digital literacy and stronger self-efficacy experience lower levels of Generative AI Anxiety, which subsequently leads to better job performance. The findings highlight the importance of developing employees' digital competencies and confidence to alleviate AI-related concerns and maximize workplace performance in AI-enabled environments.

Table 12: Indirect Effects

Hypothesis	Path	β	t-value	p-value	Decision
H7	DL → GAIA → JP	0.114	3.764	0.000	Supported
H8	SE → GAIA → JP	0.146	4.128	0.000	Supported

Source: Primary Survey

Table 12 examines the mediating role of Generative AI Anxiety in the relationships between Digital Literacy, Self-

Efficacy, and Job Performance. The significant indirect effect between Digital Literacy and Job Performance through

Generative AI Anxiety ($\beta = 0.114$, $p < 0.001$) supports H7. This finding suggests that employees with stronger digital literacy experience lower AI anxiety, which subsequently improves their job performance. Similarly, the significant indirect effect between Self-Efficacy and Job Performance through Generative AI Anxiety ($\beta = 0.146$, $p < 0.001$) supports H8. Employees possessing greater confidence in their abilities are less likely to experience AI-related anxiety, thereby enhancing workplace performance. These findings provide a direct answer to Research Question 6 and fulfill Objective 6, which sought to examine whether Generative AI Anxiety acts as a mediating mechanism linking Digital Literacy and Self-Efficacy to Job Performance. The mediation results further strengthen the theoretical contribution of the study by demonstrating that Generative AI Anxiety represents a critical psychological pathway through which employee competencies influence workplace outcomes.

➤ *Effect Size (f^2)*

Table 13 Effect Size

Relationship	f^2
DL → SE	0.721
DL → GAIA	0.186
SE → GAIA	0.271
GAIA → JP	0.224
DL → JP	0.137
SE → JP	0.158

Source: Primary Survey

The effect-size analysis provides additional insights into the practical importance of the relationships identified in the structural model. The largest effect was observed between Digital Literacy and Self-Efficacy ($f^2 = 0.721$), indicating that digital competence is a major determinant of employees' confidence in AI-enabled workplace environments. Moderate effect sizes were observed for Self-Efficacy → Generative AI Anxiety and Generative AI Anxiety → Job Performance. These findings suggest that investments in digital literacy development can generate substantial improvements in employee self-confidence while simultaneously reducing AI-related anxiety and enhancing workplace performance. From a managerial perspective, the results highlight the strategic importance of employee training and digital skill development initiatives.

Table 14 Total Effects Analysis

Relationship	Total Effect
DL → JP	0.401
SE → JP	0.447
DL → GAIA	-0.321
SE → GAIA	-0.412

Source: Primary Survey

The total effects indicate that Self-Efficacy exerts the strongest overall influence on Job Performance. This finding highlights the importance of enhancing employees' confidence and adaptability in AI-enabled work environments.

➤ *Predictive Relevance (Q^2)*

Blindfolding procedures were used to assess predictive relevance.

Table 15 Predictive Relevance

Construct	Q^2
Self-Efficacy	0.269
Generative AI Anxiety	0.348
Job Performance	0.412

Source: Primary Survey

The Q^2 values for Self-Efficacy (0.269), Generative AI Anxiety (0.348), and Job Performance (0.412) are all greater than zero, indicating that the model possesses satisfactory predictive relevance. These findings suggest that the proposed framework not only explains current employee behavior but also possesses the capability to predict future workplace outcomes associated with Generative AI adoption. The predictive relevance results reinforce the practical applicability of the model and provide additional support for the study's conceptual framework. They demonstrate that Digital Literacy and Self-Efficacy can serve as meaningful predictors of employee adaptation and performance in AI-enabled organizational settings.

Table 16 Ranking of Predictors of Job Performance

Predictor	Standardized Effect	Rank
Self-Efficacy	0.447	1
Digital Literacy	0.401	2
Generative AI Anxiety	-0.354	3

Source: Primary Survey

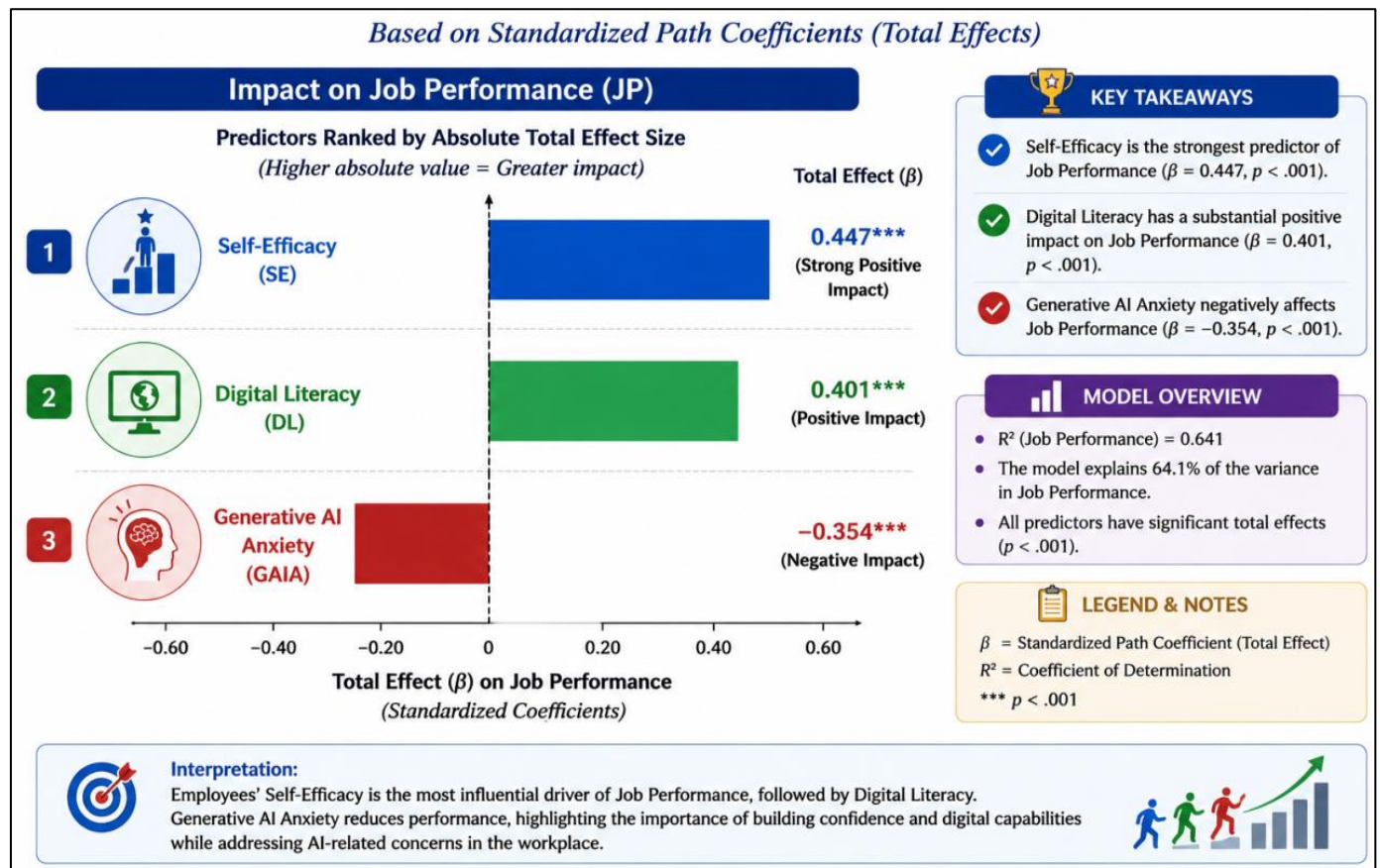


Fig 5 Predictor Importance Ranking for Job Performance
Source: Primary Survey

Figure 5 presents the relative importance of the key predictors of Job Performance in AI-enabled workplaces. The results indicate that Self-Efficacy is the strongest predictor ($\beta = 0.447$), followed by Digital Literacy ($\beta = 0.401$), while Generative AI Anxiety has a significant negative effect on Job Performance ($\beta = -0.354$). These findings suggest that employees who possess greater confidence in their ability to adapt to technological changes and stronger digital competencies are more likely to achieve higher levels of job performance. Conversely, higher levels of Generative AI Anxiety reduce employees' effectiveness and productivity. Among the predictors, Self-Efficacy exerts the greatest influence, highlighting the critical role of employees' confidence and adaptability in AI-driven work environments. Overall, the figure demonstrates that enhancing employees' self-efficacy and digital literacy while reducing AI-related anxiety can significantly improve workplace performance.

➤ Summary of Findings

The findings demonstrate that digital literacy and self-efficacy are significant determinants of Generative AI anxiety and employee job performance. Employees with higher levels of digital literacy exhibit greater confidence in their ability to utilize AI technologies and experience lower levels of AI-related anxiety. Self-efficacy also emerges as a crucial psychological resource that helps employees adapt to AI-enabled workplace environments. Furthermore, Generative AI anxiety significantly reduces employee job performance, highlighting the importance of addressing employees'

psychological concerns during organizational AI implementation. The mediation results further reveal that Generative AI anxiety serves as an important mechanism through which digital literacy and self-efficacy influence workplace performance outcomes. Overall, the structural model explains 64.1% of the variance in job performance, indicating substantial explanatory power and providing strong empirical support for the proposed theoretical framework.

VI. DISCUSSION

The primary objective of this study was to investigate how Digital Literacy and Self-Efficacy alleviate Generative AI Anxiety and influence Job Performance among employees in Bangladesh. Drawing upon Social Cognitive Theory (Bandura, 1986) and the Technology Acceptance Model (Davis, 1989), the study examined both the direct and indirect relationships among Digital Literacy, Self-Efficacy, Generative AI Anxiety, and Job Performance. The findings provide strong empirical support for the proposed conceptual framework, as all hypothesized relationships were statistically significant.

➤ Digital Literacy and Generative AI Anxiety

The findings revealed a significant negative relationship between Digital Literacy and Generative AI Anxiety ($\beta = -0.321, p < .001$), indicating that employees with stronger digital competencies experience lower levels of anxiety

regarding the adoption and use of Generative AI technologies. This result supports Hypothesis 1 and aligns with previous studies suggesting that technological knowledge reduces uncertainty and technology-related stress. Employees who understand digital systems and possess AI-related competencies are more likely to perceive Generative AI as a useful workplace tool rather than a threat to their professional future.

This finding is consistent with recent research by Liu et al. (2025), who reported that Generative AI literacy enhances employees' confidence in utilizing AI systems and reduces concerns associated with technological change. Similarly, Li et al. (2025) found that AI literacy plays a significant role in decreasing anxiety toward emerging technologies. The result also supports the assumptions of the Technology Acceptance Model, which suggests that individuals who perceive technology as understandable and manageable are more likely to accept and use it effectively. In the Bangladeshi context, where organizations are increasingly embracing digital transformation, digital literacy appears to serve as an important protective factor against AI-related anxiety.

➤ *Digital Literacy and Self-Efficacy*

The study found that Digital Literacy positively influences Self-Efficacy ($\beta = 0.647$, $p < .001$), representing the strongest direct relationship in the structural model. This finding supports Hypothesis 2 and indicates that employees who possess stronger digital skills are more confident in their ability to perform work-related tasks and adapt to AI-enabled workplace environments.

The result is consistent with Social Cognitive Theory, which emphasizes that mastery experiences and skill acquisition contribute significantly to the development of self-efficacy beliefs. Employees who successfully utilize digital technologies gain confidence in their capabilities, which subsequently enhances their willingness to engage with new technological innovations. This finding is supported by previous studies showing that technological competence strengthens employees' confidence and adaptability in rapidly changing work environments (Kim & Lee, 2024; Liu et al., 2025).

The large effect size associated with this relationship further highlights the strategic importance of digital literacy development. Organizations seeking to improve employee readiness for AI adoption should prioritize digital training initiatives because such investments not only improve technological competence but also strengthen employees' psychological confidence.

➤ *Self-Efficacy and Generative AI Anxiety*

The results demonstrate that Self-Efficacy significantly reduces Generative AI Anxiety ($\beta = -0.412$, $p < .001$), supporting Hypothesis 3. Employees who possess greater confidence in their ability to learn, adapt, and perform in AI-enabled environments experience lower levels of anxiety concerning the growing presence of AI technologies.

This finding is strongly aligned with Social Cognitive Theory, which posits that individuals with higher self-efficacy are better equipped to manage challenges, uncertainty, and environmental changes. Employees who believe in their ability to cope with technological transitions are less likely to perceive AI as a threat to their careers or job security.

The finding corroborates the work of Kim and Lee (2024), who found that self-efficacy significantly mitigates the psychological stress associated with AI adoption. Similarly, Li et al. (2025) reported that self-efficacy reduces technology-related anxiety by enhancing individuals' confidence in their ability to navigate evolving workplace demands. The stronger effect of Self-Efficacy compared to Digital Literacy in reducing AI Anxiety suggests that psychological resources may be even more important than technical competencies in helping employees adapt to AI-driven workplace transformation.

➤ *Generative AI Anxiety and Job Performance*

A significant negative relationship was identified between Generative AI Anxiety and Job Performance ($\beta = -0.354$, $p < .001$), supporting Hypothesis 4. This finding indicates that employees who experience greater anxiety regarding Generative AI technologies tend to demonstrate lower levels of workplace performance.

The result suggests that anxiety associated with AI adoption may reduce concentration, motivation, creativity, and engagement, ultimately impairing employees' ability to perform effectively. Employees who fear job displacement, skill obsolescence, or technological inadequacy may become reluctant to engage fully with AI-enabled work processes.

This finding is consistent with Tong et al. (2025), who found that AI anxiety negatively affects employee creativity and performance by increasing psychological strain. Similar conclusions have been reported in technology anxiety research, where anxiety has been shown to undermine technology acceptance and workplace effectiveness. The result emphasizes that successful AI implementation requires attention not only to technological infrastructure but also to employees' emotional and psychological well-being.

➤ *Digital Literacy and Job Performance*

The findings indicate that Digital Literacy positively influences Job Performance ($\beta = 0.287$, $p < .001$), thereby supporting Hypothesis 5. Employees possessing stronger digital skills are more capable of utilizing AI technologies effectively, improving work efficiency, decision-making quality, and task accomplishment.

This finding aligns with previous research demonstrating that digital competence has become a critical determinant of employee productivity in technology-intensive workplaces. Liu et al. (2025) found that Generative AI literacy significantly enhances workplace performance by enabling employees to leverage AI tools more effectively. The result further suggests that digital literacy contributes

directly to performance beyond its indirect effect through reducing AI anxiety.

In the context of Bangladesh's digital transformation agenda, this finding highlights the importance of continuous employee training and digital capability development as strategic mechanisms for improving organizational performance.

➤ *Self-Efficacy and Job Performance*

The study also revealed a significant positive relationship between Self-Efficacy and Job Performance ($\beta = 0.301$, $p < .001$), supporting Hypothesis 6. Employees who possess higher confidence in their capabilities demonstrate superior workplace performance, adaptability, and persistence when confronted with challenging tasks.

This finding is consistent with extensive self-efficacy literature, which identifies self-efficacy as one of the strongest predictors of employee performance across diverse organizational settings. Employees with stronger self-efficacy tend to exert greater effort, remain resilient during difficulties, and maintain higher levels of motivation. The result supports Bandura's (1986) proposition that self-efficacy directly influences behavioral outcomes and performance achievements.

Moreover, the predictor ranking analysis revealed that Self-Efficacy exerted the strongest overall influence on Job Performance, underscoring the importance of psychological empowerment in AI-enabled workplaces.

➤ *Mediating Role of Generative AI Anxiety*

One of the most important contributions of this study is the identification of Generative AI Anxiety as a significant mediating mechanism. The mediation analysis demonstrated that Generative AI Anxiety partially mediates the relationships between Digital Literacy and Job Performance ($\beta = 0.114$, $p < .001$) and between Self-Efficacy and Job Performance ($\beta = 0.146$, $p < .001$), supporting Hypotheses 7 and 8.

These findings suggest that Digital Literacy and Self-Efficacy improve employee performance not only through direct pathways but also by reducing AI-related anxiety. Employees with stronger competencies and confidence experience lower levels of concern regarding AI technologies, which subsequently enables them to perform more effectively.

The stronger indirect effect associated with Self-Efficacy indicates that psychological confidence plays a particularly important role in alleviating AI anxiety. This finding extends previous research by demonstrating the psychological process through which employee competencies translate into workplace outcomes.

➤ *Overall Discussion*

Overall, the study demonstrates that Digital Literacy and Self-Efficacy are critical resources for helping employees successfully adapt to Generative AI technologies. Employees

who possess stronger technological competencies and greater confidence in their abilities experience lower levels of AI anxiety and achieve higher levels of job performance. The findings further reveal that Generative AI Anxiety represents a significant barrier to workplace effectiveness and serves as an important psychological mechanism connecting employee competencies with performance outcomes. Given the increasing integration of Generative AI technologies across industries, organizations should focus not only on technological implementation but also on enhancing employees' digital capabilities and psychological readiness. Such efforts will be essential for reducing AI-related anxiety and maximizing the performance benefits associated with AI-enabled workplace transformation.

VII. POLICY IMPLICATIONS AND RECOMMENDATIONS

➤ *Policy Implications*

The findings of this study provide important policy implications for multiple stakeholders involved in Bangladesh's digital transformation and AI adoption initiatives. Since Digital Literacy and Self-Efficacy were found to reduce Generative AI Anxiety and improve Job Performance, while Generative AI Anxiety negatively affected workplace outcomes, coordinated efforts are required from government agencies, educational institutions, employers, professional bodies, and employees to ensure effective and inclusive AI integration.

• *Implications for Government and Policymakers:*

The Government of Bangladesh should integrate AI literacy and workforce preparedness into national digital transformation strategies, including the objectives of Smart Bangladesh Vision 2041. Policymakers should develop a comprehensive National AI Workforce Development Framework that focuses on digital literacy, AI competency development, and workforce reskilling. Special attention should be given to employees in sectors vulnerable to automation, including banking, manufacturing, customer service, and administrative occupations. Furthermore, public investment in AI-related training programs, digital infrastructure, and lifelong learning initiatives can help reduce workforce anxiety and improve national productivity. Government agencies should also formulate ethical AI guidelines and labor protection policies that address employees' concerns regarding job security, privacy, and workplace AI implementation.

• *Implications for Educational Institutions and Universities:*

Universities and higher education institutions should redesign curricula to incorporate AI literacy, data literacy, prompt engineering, digital problem-solving, and human-AI collaboration skills across disciplines. Since digital literacy significantly enhances self-efficacy and performance, graduates must be equipped with practical AI competencies before entering the labor market. Academic institutions should also establish AI laboratories, industry partnerships, and experiential learning opportunities that allow students to interact with AI technologies in real-world settings. Such

initiatives can strengthen confidence and reduce anxiety toward emerging technologies before workforce entry.

- *Implications for Organizations and Employers:*

Organizations should recognize that successful AI implementation depends not only on technology acquisition but also on employee readiness. The findings suggest that organizations should invest in continuous AI training programs, digital upskilling initiatives, and workplace learning opportunities to strengthen employees' digital literacy and self-efficacy. Employers should also adopt transparent communication strategies regarding AI implementation. Clear communication about how AI will support rather than replace employees can reduce uncertainty and alleviate Generative AI Anxiety. Organizations should integrate change-management practices, employee consultation mechanisms, and psychological support systems during AI adoption processes.

- *Implications for Human Resource Managers:*

Human resource managers play a critical role in facilitating workforce adaptation to AI-driven change. The findings indicate that self-efficacy is the strongest predictor of job performance; therefore, HR departments should prioritize employee empowerment and confidence-building initiatives. HR policies should include AI readiness assessments, personalized training pathways, mentoring programs, coaching support, and continuous professional development opportunities. AI-related competencies should also be incorporated into recruitment, performance evaluation, promotion criteria, and career development planning to ensure workforce preparedness for future technological changes.

- *Implications for Industry Associations and Professional Bodies:*

Professional associations, chambers of commerce, and industry bodies should develop sector-specific AI competency standards and certification programs. These organizations can serve as intermediaries between government, academia, and industry by identifying emerging skill requirements and providing professional development opportunities. Industry-wide awareness campaigns can also help reduce misconceptions and anxiety surrounding AI adoption while promoting responsible and productive use of AI technologies across different sectors of the economy.

- *Implications for Employees and Workforce Participants:*

The findings highlight the importance of proactive employee engagement in continuous learning and skill development. Employees should actively pursue opportunities to enhance digital literacy, AI competency, and professional adaptability. Since higher self-efficacy significantly reduces AI anxiety and improves job performance, employees should focus on building confidence through training, experimentation, and practical engagement with AI technologies. Rather than viewing Generative AI as a threat, employees should perceive it as a complementary tool capable of enhancing productivity, creativity, and career development opportunities.

- *Implications for Training and Skill Development Providers:*

Public and private training institutions should design practical AI-focused learning programs tailored to the needs of Bangladeshi employees. Training should move beyond basic digital literacy and include applied AI skills, ethical AI use, AI-assisted decision-making, prompt engineering, and workplace AI integration strategies. Particular attention should be given to small and medium-sized enterprises (SMEs), where access to AI training resources remains relatively limited. Expanding affordable and accessible AI education programs can help ensure inclusive workforce development across different sectors and regions of Bangladesh.

- *Overall Policy Implication*

The study suggests that Bangladesh's successful transition toward an AI-enabled economy requires a collaborative, multi-stakeholder approach. Government agencies, educational institutions, employers, professional bodies, and employees must work collectively to enhance digital literacy, strengthen self-efficacy, and reduce Generative AI Anxiety. Such coordinated efforts will not only improve employee job performance but also contribute to national competitiveness, workforce resilience, and sustainable economic development in the era of Generative Artificial Intelligence.

- *Recommendations*

Based on the empirical findings, the following recommendations are proposed:

- *Strengthen Digital Literacy and AI Skills Development:*

Organizations should invest in continuous digital literacy and AI training programs to enhance employees' understanding of Generative AI technologies. Training should focus on practical AI applications, prompt engineering, ethical AI use, data evaluation, and responsible AI integration into daily work activities. Improved digital competence will help employees utilize AI tools more effectively and reduce AI-related anxiety.

- *Develop Employee Self-Efficacy Through Continuous Learning:*

Managers should create opportunities for employees to develop confidence in their technological abilities through workshops, mentoring programs, coaching initiatives, and hands-on AI learning experiences. Providing employees with opportunities to successfully engage with AI technologies can strengthen self-efficacy and increase readiness for technological change.

- *Implement AI Change Management Programs:*

Organizations should establish structured AI change management initiatives to facilitate employee adaptation. Such programs should include awareness campaigns, AI readiness assessments, employee engagement activities, and ongoing support mechanisms. Effective change management can reduce uncertainty and improve acceptance of AI technologies.

- *Address Generative AI Anxiety Through Communication and Support:*

Organizations should proactively address employee concerns regarding AI adoption by communicating clear information about the purpose, benefits, and limitations of AI systems. Regular discussions, feedback mechanisms, and employee consultation processes can help reduce misconceptions and alleviate anxiety associated with AI implementation.

- *Promote Human-AI Collaboration Rather Than Replacement:*

Managers should emphasize that Generative AI is intended to complement human capabilities rather than replace employees. Encouraging collaborative approaches in which employees use AI as a productivity-enhancing tool can foster positive attitudes toward AI adoption and reduce fears related to job displacement.

- *Integrate AI Competencies into Human Resource Practices:*

Human resource departments should incorporate AI-related competencies into recruitment, training, performance evaluation, and career development systems. Developing clear AI competency frameworks can help employees understand organizational expectations and prepare for future workplace requirements.

- *Establish National AI Workforce Development Initiatives:*

Government agencies should collaborate with industry associations, universities, and professional bodies to develop national AI literacy programs. Such initiatives can ensure that the workforce remains competitive and capable of adapting to the growing integration of AI technologies across industries.

- *Encourage Lifelong Learning and Reskilling:*

Given the rapid evolution of AI technologies, employees should be encouraged to engage in continuous learning and professional development. Organizations should provide access to AI certification programs, online learning platforms, and reskilling opportunities to ensure long-term workforce adaptability.

VIII. CONCLUSION

The emergence of Generative Artificial Intelligence (GenAI) is reshaping workplaces worldwide, creating both opportunities for enhanced productivity and challenges associated with technological uncertainty and workforce adaptation. In response to these developments, this study examined the relationships among Digital Literacy, Self-Efficacy, Generative AI Anxiety, and Job Performance among employees in Bangladesh. Grounded in Social Cognitive Theory and the Technology Acceptance Model, the study sought to explain how employee competencies and psychological resources contribute to reducing AI-related anxiety and improving workplace performance. The findings demonstrate that Digital Literacy and Self-Efficacy are critical determinants of successful adaptation to AI-enabled work environments. Consistent with recent studies,

employees possessing stronger digital competencies were found to experience lower levels of Generative AI Anxiety and higher levels of Self-Efficacy (Liu et al., 2025; Li et al., 2025). These results support the argument that AI literacy and technological competence help employees better understand, evaluate, and utilize emerging technologies, thereby reducing uncertainty and resistance toward AI adoption. Furthermore, the significant positive relationship between Digital Literacy and Job Performance confirms previous evidence that digital capabilities have become essential resources for maintaining productivity and competitiveness in increasingly technology-driven workplaces. The study also found that Self-Efficacy significantly reduces Generative AI Anxiety and exerts the strongest positive influence on Job Performance. This finding aligns with Bandura's (1986) Social Cognitive Theory, which emphasizes that individuals with higher confidence in their capabilities are more resilient when facing challenges and technological change. Similar findings have been reported by Kim and Lee (2024), who observed that self-efficacious employees demonstrate greater adaptability and lower technology-related stress. The results therefore suggest that psychological confidence is a crucial factor in enabling employees to navigate AI-driven workplace transformations effectively. Another important contribution of this study is the identification of Generative AI Anxiety as a significant mediating mechanism. The findings reveal that Digital Literacy and Self-Efficacy improve Job Performance both directly and indirectly by reducing AI-related anxiety. This result is consistent with the work of Tong et al. (2025), who found that AI anxiety negatively affects employee performance, creativity, and engagement. The present study extends this line of research by demonstrating how employee competencies and beliefs mitigate such anxiety and enhance workplace outcomes. Theoretically, this study contributes to the growing literature on AI adoption by extending Social Cognitive Theory to the context of Generative AI and by highlighting the role of AI anxiety as a key psychological process influencing employee performance. Practically, the findings underscore the importance of investing in digital literacy development, AI-related training, confidence-building initiatives, and supportive organizational cultures to facilitate successful AI integration. Overall, the study concludes that the successful adoption of Generative AI in Bangladeshi workplaces depends not only on technological infrastructure but also on employees' digital competencies and psychological preparedness. As organizations continue to integrate AI technologies into their operations, fostering Digital Literacy and Self-Efficacy while reducing Generative AI Anxiety will be essential for enhancing Job Performance, strengthening workforce resilience, and supporting sustainable organizational growth in the era of artificial intelligence.

FUTURE RESEARCH DIRECTIONS

Although this study provides valuable insights into the relationships among Digital Literacy, Self-Efficacy, Generative AI Anxiety, and Job Performance in the Bangladeshi workplace context, several opportunities remain for future research. Major of those are:

➤ *Conduct Longitudinal and Cross-Cultural Studies:*

Future research should employ longitudinal designs to examine how Digital Literacy, Self-Efficacy, and Generative AI Anxiety evolve over time as AI technologies become more integrated into workplaces. Additionally, cross-country comparative studies can explore whether cultural, economic, and technological differences influence employees' adaptation to Generative AI.

➤ *Extend the Conceptual Framework with Additional Variables:*

Future studies may incorporate variables such as AI trust, organizational support, job insecurity, technology readiness, employee resilience, and innovation capability as mediators or moderators. This would provide a more comprehensive understanding of the factors influencing employee performance and AI adoption.

➤ *Examine Broader Outcomes and Intervention Effectiveness:*

Researchers should investigate the impact of Generative AI Anxiety on outcomes such as employee creativity, work engagement, job satisfaction, and organizational commitment. Furthermore, experimental studies evaluating AI training programs, digital literacy initiatives, and change-management interventions can identify effective strategies for reducing AI anxiety and enhancing workplace performance.

LIMITATIONS OF THE STUDY

Despite its contributions, this study has several limitations that should be acknowledged:

➤ *Cross-Sectional Research Design:*

The study employed a cross-sectional design, which limits the ability to establish causal relationships among Digital Literacy, Self-Efficacy, Generative AI Anxiety, and Job Performance. Future longitudinal studies may provide stronger evidence regarding causal effects.

➤ *Limited Sample Size and Context:*

The study was based on 150 respondents from Bangladesh. Although adequate for PLS-SEM analysis, the findings may not be fully generalizable to larger populations, different industries, or other countries with varying levels of AI adoption.

➤ *Self-Reported Data:*

Data were collected using self-administered questionnaires, which may be subject to common method bias, social desirability bias, and respondents' subjective perceptions. Future studies may combine survey data with objective performance measures and qualitative methods to improve the robustness and validity of the findings.

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