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Artificial Intelligence and Creative Worker In Indonesia: The Double Edge Sword Effect

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ABSTRACT

The increasing adoption of artificial intelligence (AI) in the workplace has raised concerns about its implications for employees, particularly creative workers, who are considered vulnerable to technological disruption. This study aimed to examine the influence of AI awareness on individual work performance, mediated by job insecurity and work engagement, among creative workers in Indonesia. A quantitative approach was employed through a cross-sectional survey of 227 creative workers from various creative occupations in Indonesia using a structured questionnaire. Data were analyzed using Structural Equation Modeling (SEM) with LISREL version 8.80 to examine both direct and indirect relationships among the proposed variables. The findings revealed that AI awareness positively affected job insecurity ($\beta = 0.62$, $t = 7.95$) and work engagement ($\beta = 0.23$, $t = 2.42$), while job insecurity negatively influenced work engagement ($\beta = -0.26$, $t = -2.81$). Furthermore, work engagement positively affected individual work performance ($\beta = 0.72$, $t = 7.56$). Work engagement significantly mediated the relationship between AI awareness and individual work performance ($t = 2.21$), whereas job insecurity significantly mediated the relationship between AI awareness and work engagement ($t = -2.03$). However, the serial mediating effect of job insecurity and work engagement on the relationship between AI awareness and individual work performance was not significant ($t = -1.95$). These findings indicate that creative workers perceive AI as a double-edged phenomenon: although it raises concerns regarding job continuity, it may also stimulate engagement that supports performance. By integrating the STARA awareness framework and the Job Demands–Resources theory, this study contributes to the current body of research on employees' psychological responses to AI-driven transformation. It offers practical insights to help organizations foster adaptive attitudes toward AI while maintaining employee engagement and performance amid ongoing technological transformation.

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■ INTRODUCTION

The impact of AI on creative work has also become increasingly visible in professional practice. Recent industry reports indicate that organizations are adopting generative AI to accelerate content production, reduce operational costs, and improve productivity, leading many creative workers to question the long-term security of their jobs and the value of their professional expertise. At the same time, AI is not solely perceived as a threat. Many creative professionals use AI as a collaborative tool to enhance ideation, experimentation, and creative efficiency (Öztaş & Arda, 2025). UNESCO (2019) highlighted that AI-assisted creative production raises questions concerning originality, intellectual ownership, and the long-term sustainability of creative professions. Furthermore, the World Economic Forum (2025) identified graphic designers as one of the occupations most vulnerable to technological displacement by 2030. The extensive use of generative AI may gradually reduce opportunities for deep exploration, creative intuition, and autonomous decision-making, potentially weakening employees' attachment to their work and diminishing the meaning derived from their professional roles (Amankwah-Amoah et al., 2024; Tsao et al., 2025). Consequently, understanding employees' psychological responses toward AI has become increasingly important, particularly among creative workers whose professional identities are closely tied to

uniquely human capabilities.

The impact of AI on creative production has been observed recently; several studies have found that it is consistently described as having a double-edged effect. It can expand expressive possibilities, automate labor-intensive steps, and free cognitive resources, thus enabling high-level creative work by supporting more novel output (McGuire et al., 2024; Jia et al., 2024; Öztaş & Arda, 2025). However, at the same time, many studies report countervailing risks, including technology overload, job insecurity, replacement anxiety, alienation, and resistance to change, which can supress the creativity or shift production toward faster, cheaper, more homogenized AI slop that weakens the originality and artistic intention of creative production (Dong et al., 2024; Tang, 2026; Zang & Li, 2025).

From employees' perspective, awareness of AI implementation can be seen as a form of organizational change that introduces uncertainty in the workplace. The STARA (Smart Technology, Artificial Intelligence, Robotics, and Algorithms) awareness framework, proposed by Teng et al. (2024), suggests that employees evaluate AI through two distinct appraisals: challenge and hindrance appraisals. Challenge appraisal views AI as an opportunity for growth and development, whereas hindrance appraisal views AI as a threat that intensifies stress and undermines well-being. This study focuses on the hindrance appraisal pathway because employees who perceive AI as threatening are more likely to experience adverse psychological outcomes (Bankins et al., 2024; Dong et al., 2024; Singla et al., 2025).

It is important to note that AI awareness in the present study does not refer merely to employees' knowledge or familiarity with AI technologies. Consistent with the STARA awareness framework developed by Brougham & Haar (2018), AI awareness refers to employees' understanding of the potential implications of AI for their future employment, career prospects, and professional relevance. Accordingly, the construct captures employees' cognitive recognition of AI-related workplace changes, which may subsequently be appraised as either opportunities or threats. Given the objectives of this study and the characteristics of creative occupations that are highly exposed to technological disruption, the analysis specifically emphasizes the hindrance appraisal aspect of AI awareness.

One of the most prominent consequences of viewing AI as a threat is job insecurity. AI awareness may be perceived as a job stressor due to its potential to replace or substantially alter human roles, raising concerns about job continuity (Kong et al., 2025). Such threats may emerge both as subjective perceptions of uncertainty (Lingmont & Alexiou, 2020) and as objective concerns regarding actual job displacement (Kong et al., 2025; Xu et al., 2025). Employees who perceive AI as threatening may therefore experience greater job insecurity, reflecting fears about the future stability and continuity of their employment.

Beyond job insecurity, AI awareness may also influence employees' work engagement. Work engagement represents a positive, fulfilling work-related state characterized by vigor, dedication, and absorption. It is regarded as a critical determinant of employee effectiveness because highly engaged employees tend to invest greater cognitive, emotional, and physical resources in their work (Alnagbi et al., 2025; Şahin & Yozgat, 2021). Existing findings, however, remain inconclusive. Kong et al. (2025) demonstrated that concerns about AI reduce employee engagement due to heightened perceptions of threat and uncertainty. Conversely, Wijayati et al. (2022) reported that technological disruption may stimulate engagement by encouraging employees to adapt and learn new competencies. Similarly, Ding (2021) and Teng et al. (2024) argued that some employees may interpret AI as a challenge rather than a hindrance. These inconsistent findings indicate the need to investigate further how AI awareness shapes work engagement in occupations highly exposed to AI-related disruption.

The relationship between job insecurity and work engagement can be explained through the Job Demands–Resources (JD–R) theory. According to this framework, job demands deplete employees' psychological resources and trigger strain, which in turn undermines motivational processes (Bakker, 2022). Several empirical studies have consistently demonstrated that employees experiencing job insecurity exhibit lower levels of work engagement (Guo et al., 2022; Karatepe et al., 2020; Kong et al., 2025). Cao et al. (2024) further argued that changes in the external work environment generate negative psychological reactions, such as insecurity, that subsequently influence work behavior. In the context of AI implementation, employees who fear losing their jobs may become less enthusiastic, less dedicated, and less immersed in their work.

The STARA awareness framework and the Job Demands–Resources (JD–R) theory provide complementary perspectives for explaining employees' responses to AI adoption. STARA awareness explains how

employees appraise AI-related technologies as either opportunities or hindrances. This study focuses on the hindrance appraisal pathway, in which AI is perceived as a threat to job continuity and professional relevance. From a JD–R perspective, such awareness functions as a job demand that creates uncertainty, generates job insecurity as a strain reaction, and subsequently influences work engagement and employee outcomes. Accordingly, STARA awareness explains the formation of employees' perceptions toward AI, whereas JD–R theory explains how these perceptions affect engagement and performance through job insecurity.

Work engagement is a key determinant of individual work performance, as engaged employees tend to be more productive, proactive, and capable of achieving superior outcomes (Alnagbi et al., 2025; Şahin & Yozgat, 2021). Supporting this argument, Neuber et al. (2022) found, through meta-analytic evidence, that work engagement is positively associated with task performance, a primary dimension of individual work performance. Despite growing interest in AI and employee outcomes, important gaps remain. Previous studies have reported inconsistent findings regarding the relationship between AI awareness and work engagement, and most have examined AI awareness, job insecurity, and engagement separately rather than as an integrated mechanism that leads to individual work performance. Furthermore, limited attention has been given to creative workers, despite their high vulnerability to AI-driven transformation. Addressing these gaps may provide a more comprehensive understanding of employees' psychological responses to AI-related workplace change.

This study integrates the STARA awareness framework with the JD-R theory, which posits that AI awareness functions as a job demand that increases employees' perceptions of job insecurity, thereby influencing work engagement and individual work performance. By examining the mediating roles of job insecurity and work engagement, this study extends prior research beyond direct-effect models. It offers a more comprehensive explanation of how AI awareness influences employee outcomes among creative workers. Despite growing interest in AI-related workplace issues, limited research has simultaneously examined the interrelationships among AI awareness, job insecurity, work engagement, and individual work performance within the creative sector. Moreover, previous studies have reported inconsistent findings regarding whether AI awareness diminishes or enhances employee engagement, indicating the need for further investigation.

Accordingly, this study aims to address the following research questions: (1) Does AI awareness influence job insecurity and work engagement among creative workers? (2) Does job insecurity affect work engagement? (3) Does work engagement influence individual work performance? Moreover, (4) Do job insecurity and work engagement mediate the relationship between AI awareness and individual work performance, either independently or sequentially? Addressing these questions is expected to contribute to a better understanding of how creative workers respond to AI-driven transformation and to provide insights for organizations seeking to maintain employee engagement and performance in increasingly technology-intensive work environments.

The proposed research model is constructed based on the theoretical arguments and empirical evidence discussed above; the following hypotheses are formulated:

H1: AI Awareness has a positive effect on Job Insecurity.
H2: AI Awareness has a positive effect on Work Engagement.
H3: Job Insecurity has a negative effect on Work Engagement.
H4: Work Engagement has a positive effect on Individual Work Performance.
H5: Work Engagement mediates the relationship between AI Awareness and Individual Work Performance.
H6: Job Insecurity mediates the relationship between AI Awareness and Work Engagement.
H7: Job Insecurity and Work Engagement serially mediate the relationship between AI Awareness and Individual Work Performance.

■ METHOD

This study employed a quantitative research method, utilizing a descriptive research design to collect and analyze numerical data through a range of techniques and tools (Zakrzewska-Bielawska et al., 2022). To process the data and test the research hypotheses, this study applied Structural Equation Modeling (SEM). This multivariate technique combined elements of factor analysis and multiple regression, enabling researchers to simultaneously examine a series of interdependent relationships between measured variables and latent constructs (Hair et al., 2019). The SEM analysis in this study was conducted using LISREL version 8.80

(Scientific Software International, Inc., Lincolnwood, IL, USA).

Population and Sampling Method

This study utilized both primary and secondary data. Primary data were collected through an online questionnaire distributed via Google Forms, designed to directly observe field conditions related to the phenomena under investigation, with items developed based on the study's variables and prior research. The population consisted of creative workers in Indonesia, whose primary work activities rely on creativity, content creation, design, artistic production, and digital media development, including graphic designers, illustrators, animators, UI/UX designers, content creators, photographers, videographers, and copywriters who have worked in their profession for at least one year, whether under company contract at the entry to middle manager level or as freelancers. These occupations were selected because they exhibit relatively high exposure to AI-enabled technologies and face similar concerns about technological disruption and job transformation.

Although respondents were drawn from several creative occupations, they were selected based on common occupational characteristics, namely reliance on creative skills and exposure to AI-enabled technological transformation. Therefore, creative workers were treated as a single analytical group in the SEM model, as the study aimed to examine the general psychological responses of creative workers toward AI rather than differences between specific professions. Respondents were selected using a non-probability purposive sampling technique, whereby not all members of the population have an equal chance of being selected, and selection is not random (Vehovar et al., 2016). This approach was considered appropriate to ensure that the collected sample met the predefined criteria and adequately represented creative workers who are exposed to AI-related technological changes.

Research Design

This study emphasized the quantitative, cross-sectional design to examine the relationships among AI awareness, job insecurity, work engagement, and individual work performance among creative workers in Indonesia. The proposed model was developed based on the STARA awareness framework and the Job Demands–Resources (JD–R) theory. Specifically, AI awareness was conceptualized as a job demand that may increase job insecurity and influence work engagement, thereby affecting individual work performance. The model also incorporates the mediating roles of job insecurity and work engagement to explain the underlying mechanisms through which AI awareness influences employee outcomes. Figure 1 presents the conceptual framework, while Hypotheses H1–H7, formulated in the Introduction section, were empirically tested using Structural Equation Modeling (SEM).

Research Instrument and Measurement

This study employed a closed-ended questionnaire as the primary data collection instrument, using a non-probability purposive sampling technique, distributed to respondents who met the predefined criteria of being active creative workers in occupations such as graphic design, illustration, animation, UI/UX design, content creation, photography, videography, and related creative fields. The questionnaire link was disseminated through professional networks, creative communities, and social media platforms to reach eligible participants. Responses were measured using a 7-point Likert scale ranging from "strongly disagree" to "strongly agree," encompassing seven response options designed to comprehensively capture respondents' perceptions across all variables under investigation. The use of this technique narrowed the scope of the study, ensuring that the selected sample aligned with the research objectives. In addition, this sampling approach may introduce biases, such as selection and self-selection, because respondents are not randomly selected and may not fully represent the diversity of the target population. The measurement instruments used in this study were adapted from previously validated scales. Artificial Intelligence Awareness was measured using items adapted from Brougham and Haar (2018); Work Engagement was operationalized as a higher-order construct consisting of Vigor, Dedication, and Absorption dimensions which adapted from Schaufeli et al. (2006); Job Insecurity was measured using items adapted from Vander Elst et al., (2014); Individual Work Performance was operationalized as a higher-order construct consisting of Task Performance, Contextual Performance, and Counterproductive Work Behavior dimensions adapted from Koopmans et al., (2011). The complete list of measurement items and references is presented in Table 1.

Data were collected using an online questionnaire administered through Google Forms. The main survey was conducted over approximately five months. Respondents were informed about the purpose of the study, the voluntary nature of participation, and the confidentiality of their responses as part of

Table 1. Operational definition of variables

Variable	Dimension	Items	Reference
Artificial Intelligence Awareness	-	• "I think my job can be replaced by AI." • I personally worry that what I currently do in my job will be replaceable by AI. • I personally worry about my future in this organization because AI is replacing employees. • I personally worry about my future because in this job many employees are being replaced by AI.	Brougham and Haar (2018)
Work Engagement	Vigor	• I feel full of energy when working. • I feel strong and energized when working. • When I wake up in the morning, I am eager to go to work.	Schaufeli et al. (2006)
	Dedication	• I am enthusiastic about doing my work. • My work inspires me. • I am proud of the work I do.	
	Absorption	• I am enthusiastic about doing my work. • My work inspires me. • I am proud of the work I do.	
Job Insecurity	-	• I am most likely to lose my job soon. • I am confident that I can keep my job. • I feel insecure about the future of my job. • I think I might lose my job in the near future.	Vander Elst et al. (2014)
Individual Work Performance	Task Performance	• I am able to plan my work so that I can complete it on time • I remember the work results that I need to achieve • I can set priorities • I can complete my work efficiently • I manage my time well.	Koopmans et al. (2011)
	Contextual Performance	• On my own initiative, I start working on new tasks after the previous ones are completed • I take on challenging tasks when they arise. • I strive to continuously update my knowledge related to my work • I strive to keep my work skills current. • I find creative solutions to new problems. • I take on extra responsibilities. • I continuously seek new challenges in my work • I am actively involved in meetings and/or consultations	
	Counter-productive Work Behavior	• I complain about trivial matters related to work at the workplace • I exaggerate problems at the workplace • I focus on the negative aspects of the work situation rather than the positive ones • I talk about the negative aspects of my work with my colleagues • I talk about the negative aspects of my work with people outside the organization	

informed consent. They were instructed to answer all questions based on their current work experiences and perceptions regarding AI in the workplace. The questionnaire required approximately 10–15 minutes to complete, and all responses were collected anonymously. Prior to the main survey, a pretest was conducted to assess the clarity and reliability of the measurement items. After the instrument met the required validity and reliability criteria, the detailed validity and reliability results are reported in Tables 3 and 4, respectively.

Data Analysis

This study employed Structural Equation Modeling (SEM) as the analytical approach for data processing and hypothesis testing. SEM is a multivariate technique that combines factor analysis and multiple regression, enabling researchers to simultaneously examine a series

of interdependent relationships between measured variables and latent constructs (Hair et al., 2019). This method was selected because it can analyze the structural relationships among variables expressed as a set of equations, capturing all relationships between dependent and independent constructs in the analysis. The SEM analysis in this study was conducted using Lisrel 8.8 software.

The SEM procedure followed a two-step approach: measurement model assessment and structural model evaluation. In the measurement model stage, Confirmatory Factor Analysis (CFA) was conducted to assess construct validity using standardized loading factors (SLF), with a minimum acceptable threshold of 0.50 (Hair et al., 2019). Indicators that did not meet this criterion were removed from the measurement model, and the model was subsequently re-estimated using the remaining valid indicators before proceeding to structural model evaluation and hypothesis testing.

The data processing was carried out using a two-step approach. The first step was the Measurement Model, which tested the theoretical relationships between indicators and latent variables using Confirmatory Factor Analysis (CFA), including assessments of validity, reliability, and overall model fit. The second step was the Structural Model, which examined the hypothesized dependency relationships among constructs, including path coefficients, t-values, R-Square values, Goodness-of-Fit Indexes, and mediation testing using the Sobel test (Hair et al., 2019).

■ RESULTS AND DISCUSSION

Response Profile

Table 2 summarizes the demographic characteristics of the 227 participants. The majority were male (62.6%), followed by female participants (36.6%). Most respondents were aged 20–30 years (78%), indicating that they were in their productive working years. Most participants had 1–5 years of working

Table 2. Demographic profile of respondents

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	142	62.6
	Female	83	36.6
Employee Status	Permanent	80	35.2
	Contract	54	23.8
	Freelance/Gig	93	41
Age (years)	<20	6	2.6
	20 - 30	177	78
	30 >40	44	19.4
Education	High School	24	10.6
	Diploma	20	8.8
	Bachelor's Degree	178	78.4
	Master's Degree	5	2.2
Working Period (years)	1-5	174	74.36%
	5-10	50	21.37%
	>10	10	4.27%
Job Category	Copywriter	71	30.87
	Graphic Design / Motion Graphic	56	24.35
	Content Creator	39	16.96
	Script Writer	15	6.52
	UI/UX Designer	14	6.09
	Product Designer	8	3.48
	Animator	6	2.61
	Interior Designer	5	2.17
	Illustrator	3	1.30
	Creative Director	3	1.30
	Social Media Specialist	2	0.87
	Art Director	1	0.43
	Other Creative Role	7	3.04

experience (74.36%). Regarding education, the majority held a bachelor's degree (78.4%). In terms of employee status, most respondents worked as freelance/gig workers (41%), followed by permanent employees (35.2%). The most common job categories were Copywriter (30.87%), Graphic Design/Motion Graphic (24.35%), and Content Creator (16.96%).

Measurement Model

The measurement model test was conducted using LISREL 8.8 software, and validity analysis was conducted through CFA by examining standardized factor loadings (SLF) values, with a minimum of 0.5 considered valid and an ideal of 0.7 (Hair et al., 2019). Table 3 presents the results of the validity analysis using standardized factor loadings. Based on these results, several invalid indicators were identified: JI2, CP6, and CP8, which had values below 0.5 (Hair et al., 2019). Accordingly, JI2, CP6, and CP8 were excluded from subsequent structural model analyses, and only indicators meeting the recommended validity threshold were retained for hypothesis testing. Following the removal of these indicators, the measurement model was re-estimated using the remaining valid indicators, and the revised model met the validity and

Table 3. Validity and reliability test of construct

Construct	Composite Reliability Variables	AVE	Indicator	SLF	AVE
AI Awareness	0.93	0.77	AI1	0.72	-
			AI2	0.94	
			AI3	0.95	
			AI4	0.88	
Work Engagement – Vigor (V1-V3)	0.87	0.79	V1	0.88	0.76
			V2	0.92	
			V3	0.81	
Work Engagement – Dedication (D1-D3)			D1	0.9	0.72
			D2	0.88	
			D3	0.77	
Work Engagement – Absorption (A1-A3)			A1	0.92	0.60
			A2	0.72	
			A3	0.66	
Job Insecurity	0.85	0.79	JI1	0.83	-
			JI2	0.31	
			JI3	0.78	
			JI4	0.82	
Individual Work Performance – Task Performance (TP1-TP5)	0.91	0.78	TP1	0.65	0.79
			TP2	0.76	
			TP3	0.84	
			TP4	0.84	
			TP5	0.69	
Individual Work Performance – Contextual Performance			CP1	0.66	0.68
			CP2	0.60	
			CP3	0.72	
			CP4	0.74	
			CP5	0.68	
			CP6	0.42	
			CP7	0.62	
			CP8	0.44	
Individual Work Performance – Counterproductive Work Behavior			CWB1	0.62	0.81
			CWB2	0.89	
			CWB3	0.88	
			CWB4	0.82	
			CWB5	0.77	

reliability requirements before proceeding to structural model evaluation and hypothesis testing. In the final measurement model, AI Awareness was measured using four indicators (AI1–AI4), Job Insecurity using three retained indicators (JI1, JI3, and JI4), Work Engagement using nine indicators representing the dimensions of vigor, dedication, and absorption, and Individual Work Performance using the retained indicators after item purification. The Composite Reliability (CR) and Average Variance Extracted (AVE) values reported in Table 4 were calculated based on these retained indicators. The measurement model test for reliability analysis was conducted by examining the construct reliability (CR) with a minimum threshold of 0.7 and the average variance extracted (AVE) with a minimum threshold of 0.5 (Hair et al., 2019). Table 3 shows the results of the reliability analysis using CR and AVE. Based on the results, all variables exceeded the minimum threshold, indicating they are reliable.

Structural Model Assessment

The structural model testing began with an assessment of the overall model fit, known as Goodness of Fit (GOF). This GOF evaluation was conducted to further assess whether the proposed research model demonstrates an acceptable fit to the observed data.

Table 4 shows that the GOF testing results indicate that Chi-Square, RMSEA, NFI, NNFI, CFI, IFI, and RFI provide a good fit. Two indicators fall under the marginal fit category, namely GFI and AGFI, and one indicator falls under the poor fit category, namely SRMR. According to Hair et al. (2019), an SEM model is considered to have a good goodness of fit when several fit indices meet the recommended minimum values, such as CFI ≥ 0.90, RMSEA ≤ 0.08, and SRMR ≤ 0.05. Although the SRMR value (0.091) exceeds the commonly recommended threshold, model evaluation in SEM should not rely on a single goodness-of-fit index. As suggested by Hair et al. (2019), overall model fit should be assessed using a combination of absolute, incremental, and parsimonious fit indices. In the present study, most fit indices, including RMSEA, CFI, IFI, NFI, NNFI, and RFI, met the recommended criteria, indicating an acceptable overall fit despite the relatively high SRMR. Therefore, the structural model was considered adequate for hypothesis testing, although the SRMR result indicates that some residual discrepancy between the observed and reproduced covariance matrices remains.

Hypothesis testing in this study was conducted by analyzing the causal relationships within the structural model, considering the path coefficients, t-values, and R^2 values. The R^2 value indicates the extent to which exogenous latent variables can explain the variation in endogenous latent variables. The coefficient of determination (R^2) indicates how much of the variance in endogenous variables is explained by exogenous variables, with benchmarks of approximately 0.75 considered strong, 0.50 moderate, and 0.25 weak (Hair et

Table 4. Goodness of fit test and coefficient of determination

GOF Evaluation			
GOF Measure	**Fit Criteria**	**Result**	**Description**
Chi-Square	P-value ≤ 0.05	970.529 (p = 0.00)	*Good Fit*
RMSEA	RMSEA ≤ 0.08	0.071	*Good Fit*
NFI	NFI ≥ 0.90	0.931	*Good Fit*
NNFI	NNFI ≥ 0.90	0.959	*Good Fit*
CFI	CFI ≥ 0.90	0.963	*Good Fit*
IFI	IFI ≥ 0.90	0.963	*Good Fit*
RFI	RFI ≥ 0.90	0.925	*Good Fit*
SRMR	SRMR ≤ 0.05	0.091	*Poor Fit*
GFI	GFI ≥ 0.90	0.788	*Marginal Fit*
AGFI	AGFI ≥ 0.90	0.754	*Marginal Fit*
Coefficient of Determination (R^2)			
Endogenous Variable	**Value**	**Interpretation**	
Job Insecurity	0.380	Weak	
Work Engagement	0.0367	Very Low	
Individual Work Performance	0.517	Moderate	

al., 2019).

Table 4 shows that R^2 indicates job insecurity has weak explanatory power (R^2 = 0.380). In contrast, work engagement has very low explanatory power (R^2 = 0.0367), indicating that the model accounts for only a small proportion of the variance in work engagement. This finding is consistent with previous studies suggesting that work engagement is influenced by a broader set of antecedents, including job, social, development, and personal resources that were not incorporated into the present model (Mazzetti et al., 2023). Meanwhile, work engagement demonstrates a moderate explanatory power over individual work performance (R^2 = 0.517) (Hair et al., 2019).

AI Awareness, Job Insecurity and Work Engagement

Figure 1 illustrates the final structural model, showing the path coefficients and t-values of the hypothesized relationships in the study. The visual representation confirms that Work Engagement (WE) has the strongest direct effect on Individual Work Performance (IWP), while AI Awareness (AI) shows a strong effect on Job Insecurity (JI). In addition, AI Awareness (AI) positively influences Work Engagement (WE), and Job Insecurity (JI) negatively affects Work Engagement (WE). These findings indicate that AI Awareness (AI) indirectly shapes Individual Work Performance (IWP) through the mediating roles of Job Insecurity (JI) and Work Engagement (WE).

AI has a significant effect on JI (β = 0.62, t = 7.95), supporting H1 and indicating that higher AI awareness strongly drives feelings of job insecurity among workers. Regarding the effect of AI on WE (β = 0.23, t = 2.42), the results indicate a positive and significant relationship, supporting H2. Therefore, the findings indicate that AI Awareness increases Work Engagement among creative workers. Table 5 shows the structural model assessment revealed that three of the four hypothesized relationships were statistically supported.

Table 5 shows that AI Awareness has a strong and significant effect on Job Insecurity (β = 0.62, t = 7.95), supporting H1. This finding indicates that higher levels of AI awareness increase feelings of job insecurity among creative workers. Furthermore, AI Awareness also has a positive and significant effect on Work Engagement (β = 0.23, t = 2.42), supporting H2. This finding suggests that although creative workers are aware of the potential risks associated with AI adoption, they may also perceive AI as a useful resource that enhances productivity, facilitates idea generation, and supports creative processes. Consistent with the challenge appraisal perspective of the STARA awareness framework, awareness of AI may motivate employees to adapt, learn new competencies, and become more engaged in their work.

The positive effect of AI Awareness on Work Engagement may also be interpreted in light of the respondents' demographic profile. As shown in Table 2, 41% of participants were freelance or gig workers, while most respondents were young creative professionals

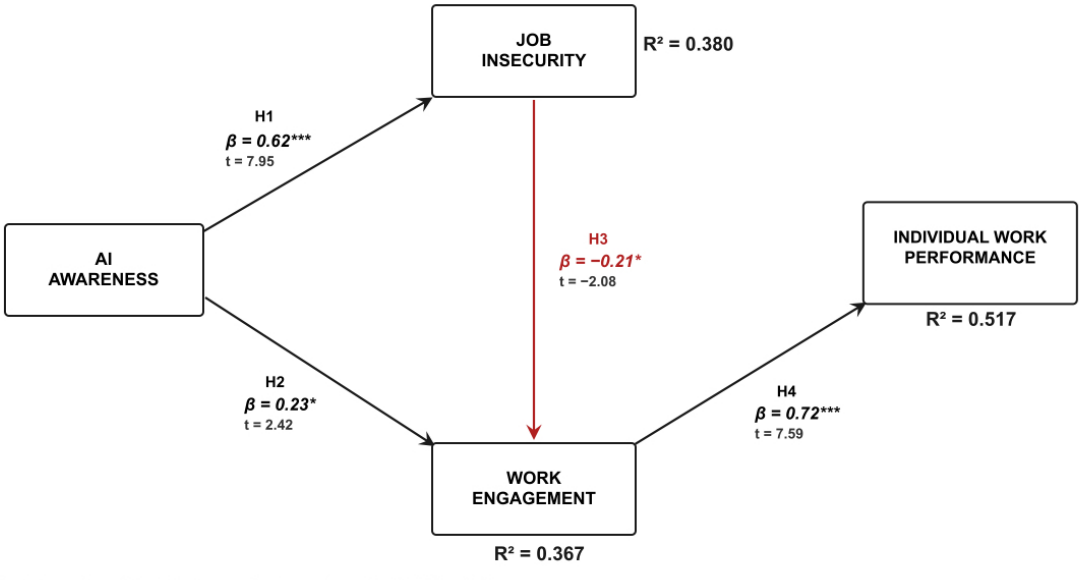


Figure 1. Final structural model with path coefficients

Table 5. Hypothesis testing and mediation analysis

Structural Path Coefficients			
Hypotesis	**Path Coefficient**	**t-value**	**Decision**
AI Awareness (AI) → Job Insecurity (JI)	0.62	7.95	Significant (Accepted)
AI Awareness (AI) → Work Engagement (WE).	0.23	2.42	Significant (Accepted)
Job Insecurity (JI) → Work Engagement (WE).	-0.21	-2.08	Significant (Accepted)
Work Engagement (WE) → Individual Work Performance (IWP)	0.72	7.59	Significant (Accepted)
Mediation Analysis			
AI Awareness (AI) → Work Engagement (WE) → Individual Work Performance (IWP)		2.21	Significant (Accepted)
AI Awareness (AI) → Job Insecurity (JI) → Work Engagement (WE)		-2.03	Significant (Accepted)
AI Awareness (AI) → Job Insecurity (JI) → Work Engagement (WE) → Individual Work Performance (IWP)		-1.945	Not Significant (Accepted)

aged 20–30 years. For freelancers, AI may be perceived not only as a replacement threat but also as a practical tool that helps them work faster, generate ideas, produce content more efficiently, and remain competitive in a project-based labor market. Unlike employees in highly standardized jobs, many creative freelancers depend on continuously acquiring clients and adapting to technological trends. Consequently, awareness of AI may stimulate learning, experimentation, and professional self-development, which in turn increases work engagement. This interpretation is consistent with Wijayati et al. (2022), who found that AI adoption can enhance engagement by encouraging employees to develop new competencies, and with Öztaş and Arda (2025), who reported that creative workers often view AI as a collaborative tool that supports creative production rather than purely replacing human creativity.

The findings indicate that AI awareness significantly increases job insecurity among creative workers, suggesting that greater awareness of AI implementation is associated with stronger concerns regarding job continuity. This result supports the STARA awareness framework, which explains that employees may appraise AI as a hindrance when it is perceived as threatening their professional relevance and employment stability. From the Job Demands–Resources (JD–R) perspective, AI awareness functions as a job demand that creates uncertainty and psychological strain, thereby increasing employees' perceptions of job insecurity. These findings are consistent with previous studies by Kong et al. (2025), Bankins et al. (2024), and Dong et al. (2024), which reported that employees who perceive AI as a potential substitute for human work tend to experience higher levels of job insecurity.

In contrast to the initial hypothesis, AI awareness also demonstrated a positive effect on work engagement. This finding suggests that creative workers do not perceive AI solely as a threat but also as a resource that supports ideation, experimentation, and work efficiency. The result is in line with Wijayati et al. (2022), Ding (2021), and Teng et al. (2024), who argued that employees may interpret technological change as a challenge that encourages learning and adaptation. This finding differs from Kong et al. (2025), who found that AI awareness reduced work engagement among frontline employees. Such differences may be attributed to occupational context, as creative work emphasizes innovation and idea generation, allowing AI to be perceived as a complementary tool rather than merely a replacement for human labor.

The Effect of Job Insecurity on Work Engagement

Job Insecurity (JI) has a significant negative effect on WE ($\beta = -0.21$, $t = -2.08$), supporting H3. This result suggests that workers with higher levels of job insecurity tend to exhibit lower levels of work engagement. This finding answers the second research question concerning the effect of job insecurity on work engagement. The negative effect of job insecurity on work engagement indicates that employees experiencing uncertainty regarding job continuity tend to invest fewer cognitive, emotional, and physical resources in their work. According to the JD–R theory, job insecurity represents a job demand that consumes employees' psychological resources and weakens motivational processes. Consequently, employees experiencing insecurity are less likely to demonstrate vigor, dedication, and absorption in their work. This finding is consistent with previous studies by Guo et al. (2022), Karatepe et al. (2020), Kong et al. (2025), and Cao et al. (2024), which

consistently reported that job insecurity diminishes work engagement by increasing psychological strain and reducing employees' motivation to contribute beyond their formal job requirements.

The Effect of Work Engagement on Individual Work Performance

Work Engagement (WE) demonstrates a strong and significant positive effect on Individual Work Performance (β = 0.72, t = 7.59), supporting H4. This result confirms that work engagement is an important determinant of employee performance and answers the third research question of this study. The positive relationship between work engagement and individual work performance indicates that employees who are more energetic, dedicated, and immersed in their work tend to achieve higher performance levels. Engaged employees generally allocate greater effort and persist in completing work-related tasks, resulting in improved productivity and work quality. This finding supports the JD–R theory, which proposes that motivational processes foster positive work outcomes through higher engagement. Furthermore, the result is consistent with previous studies by Alnagbi et al. (2025), Şahin and Yozgat (2021), and the meta-analysis conducted by Neuber et al. (2022), all of which demonstrated that work engagement is an important predictor of employee performance across different occupational settings.

The Mediating Roles of Job Insecurity and Work Engagement

Table 5 shows that two of the three hypothesized indirect relationships were statistically supported. The indirect effect of AI Awareness on Individual Work Performance through Work Engagement (AI → WE → IWP) was significant (t = 2.21), indicating that Work Engagement significantly mediates the relationship between AI Awareness and Individual Work Performance. In addition, the indirect effect of AI Awareness on Work Engagement through Job Insecurity (AI → JI → WE) was also significant (t = -2.03), suggesting that Job Insecurity significantly mediates the relationship between AI Awareness and Work Engagement. However, the serial mediation effect of AI Awareness on Individual Work Performance through Job Insecurity and Work Engagement (AI → JI → WE → IWP) was not significant (t = -1.945).

The insignificant serial mediation effect can be explained by the nature of serial mediation models, in which the specific indirect effect is estimated as the product of all path coefficients along the sequential mediation chain (Hayes, 2022). Consequently, when one of the path coefficients is relatively weak, the resulting indirect effect becomes substantially smaller. Although Work Engagement (t = 2.21) and Job Insecurity (t = -2.03) individually demonstrated significant mediating effects, the transmission of these effects weakened when both mediators operated sequentially, as reflected by the serial mediation t-value of -1.945 and the relatively small total indirect effect (-0.02). Although the obtained t-value was close to the significance threshold, the indirect effect did not reach statistical significance at α = 0.05, indicating that the sequential mediation pathway contributes only minimally to explaining the relationship between AI Awareness and Individual Work Performance.

Beyond the statistical explanation, the insignificant serial mediation effect may also reflect the respondents' employment characteristics. Approximately 41% of participants were freelance or gig workers who routinely operate under project-based employment arrangements. From the perspective of the precariat theory (Standing, 2014), workers in such conditions are accustomed to chronic employment uncertainty and therefore tend to regard job insecurity as a normal aspect of working life rather than an exceptional condition. Consequently, although AI Awareness increases job insecurity and, in turn, weakens work engagement, these psychological responses are not necessarily sufficient to reduce individual work performance. Creative workers may continue to complete their work because maintaining professional reputation, securing future projects, and sustaining income remain stronger motivations than emotional attachment to work. This finding suggests that, within the Indonesian creative sector, AI Awareness is more likely to influence Individual Work Performance through motivational mechanisms associated with Work Engagement than through a sequential pathway involving both Job Insecurity and Work Engagement.

The significant mediating role of Work Engagement is consistent with previous studies suggesting that employees who perceive technological changes positively are more likely to remain psychologically invested in their work, thereby enhancing their performance. Work engagement has been widely recognized as a key mechanism through which organizational and technological factors influence employee outcomes, including productivity and task performance (Schaufeli et al., 2006; Bakker & Demerouti, 2017). These

findings reinforce the argument that employees' motivational states play a crucial role in translating awareness of technological developments into improved work performance.

Similarly, the significant indirect effect of AI Awareness on Work Engagement through Job Insecurity indicates that awareness of AI can influence employees' engagement by shaping their perceptions of job security. This finding is consistent with previous research demonstrating that technological disruption increases concerns about job continuity, which in turn reduce positive work-related attitudes and behaviors (Mazzetti et al., 2023). From the JD–R perspective, Job Insecurity serves as a strain mechanism whereby AI-related uncertainty consumes employees' psychological resources and weakens work engagement. Therefore, Job Insecurity represents an important psychological mechanism linking AI Awareness and employees' motivational states.

■ CONCLUSION

This study contributes to the current understanding of how AI awareness influences individual work performance among creative workers in Indonesia, through the mediating roles of job insecurity and work engagement. The findings indicate that AI awareness significantly increases job insecurity and positively influences work engagement, while job insecurity negatively affects work engagement and work engagement positively affects individual work performance. Although AI awareness was hypothesized to negatively affect work engagement, the results suggest that creative workers may perceive AI not only as a threat but also as a resource that supports their work. The insignificant serial mediation effect further indicates that the combined pathway through job insecurity and work engagement is not sufficiently strong to transmit the effect of AI awareness on individual work performance, despite the significance of each mediator when examined separately. By integrating the STARA awareness framework and the Job Demands–Resources theory, this study extends existing literature by showing that the impact of AI awareness on employee outcomes involves complex psychological processes rather than exclusively negative consequences. Organizations should therefore promote AI literacy, transparent communication, and continuous skill development to reduce unnecessary job insecurity while strengthening work engagement. More broadly, organizations should adopt proactive AI governance policies that involve employees in planning and implementing AI-related initiatives, establish clear guidelines on the role of AI in creative work, and provide structured AI upskilling and reskilling programs. Clear communication regarding the purpose, scope, and expected impact of AI adoption may help shape more positive perceptions of AI among creative workers and reduce uncertainty associated with technological change. In contrast, a human–AI collaboration approach can support employee engagement and performance during technological transformation. Future research is encouraged to examine these relationships in different occupational and cultural contexts and to explore additional factors that may influence employees' adaptation to AI-driven transformation.

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