International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

The Use Of Artificial Intelligence And Employee Performance In Creative Agencies: The Mediating Role Of Work Engagement

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Abstract

This study aims to analyze the effects of digital competence and artificial intelligence (AI) utilization on employee performance, with work engagement as a mediating variable among creative agency employees in Jabodetabek, Indonesia. A quantitative explanatory survey was conducted involving 184 respondents selected through purposive sampling. Data were collected using an online questionnaire with a five-point Likert scale and analyzed using PROCESS Macro Model 4 with 5,000 bootstrap samples and 95% confidence intervals. The results indicate that digital competence and AI utilization have positive and significant effects on both work engagement and employee performance. Work engagement also has a positive and significant effect on employee performance. The indirect effect of digital competence on employee performance through work engagement was 0.2224, while the indirect effect of AI utilization was 0.1591. Both indirect effects were significant, indicating that work engagement partially mediates the relationships between digital competence and employee performance and between AI utilization and employee performance. These findings suggest that developing digital capabilities and utilizing AI should be accompanied by efforts to strengthen employee engagement to improve performance. However, the cross-sectional design, purposive sampling technique, and self-reported questionnaire limit causal interpretation and the generalizability of the findings. This study contributes to the digital workplace literature by integrating digital competence, AI utilization, work engagement, and employee performance within a mediation framework. Practically, the findings provide insights for creative agencies to enhance digital competencies, promote responsible AI utilization, and strengthen employee engagement.

Keywords: Artificial intelligence; digital competence; employee performance; work engagement.

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INTRODUCTION

Digital transformation has changed the nature of work, coordination patterns, and the way organizations manage performance (Trenerry et al., 2021). These changes are increasingly relevant for creative agencies, which rely on idea development, content production, information processing, crossfunctional collaboration, and project completion tailored to client needs. In a work environment that demands both creativity and speed, employees need the ability to utilize technology effectively and adapt to evolving work systems (Audrin et al., 2024). These conditions make human resource competencies and the ability to integrate technology into work processes critical aspects of organizational performance management.

Digital competency is one of the capabilities required to meet these demands. This competency encompasses the ability to use digital devices and applications, access and evaluate information, collaborate via digital platforms, adapt to technological advancements, and solve problems with the support of digital tools (Vuorikari et al., 2022). These competencies have the potential to help employees manage tasks and overcome technical obstacles during the work process

Research (Zhou et al., 2025) has linked digital competencies to employee productivity and performance, although this relationship must be understood by considering the conditions that enable individual abilities to translate into work achievements. Thus, digital competencies are not only relevant as technical skills but also need to be examined as individual resources that have the potential to support employee engagement in their work.

In addition to digital competence, advancements in artificial intelligence (AI) present opportunities to enhance the effectiveness of work processes, particularly in activities involving information processing and idea generation (Al Naqbi et al., 2024). AI can help employees explore alternative ideas, organize and process information, and accelerate the completion of specific tasks (Noy & Zhang, 2023). However, the contribution of this technology to performance cannot be assumed to occur automatically. The quality of AI utilization also depends on users' ability to evaluate the technology's outputs, consider its suitability for job requirements, and maintain professional judgment in decision-making (Lau et al., 2026). Research (Taş et al., 2026) on AI in the workplace indicates that Subscribe to DeepL Pro to edit this document. Visit www.DeepL.com/pro for more information. the use of this technology is associated with employee engagement and performance, while also opening up opportunities to examine the mechanisms linking technology utilization to work outcomes

The relationship between digital competence, AI utilization, and performance needs to be analyzed by considering the psychological factors associated with job performance. One relevant concept is work engagement—a positive psychological state

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related to work and characterized by vigor, dedication, and absorption. These three dimensions describe energy and perseverance at work, engagement accompanied by enthusiasm, and the ability to focus attention on activities (Schaufeli & Bakker, 2004). Work engagement indicates that this concept has been used to explain employees' psychological states in relation to their work environment and performance. In this study, work engagement is positioned as a mediating variable to test whether digital competence and the use of AI are related to performance through employees' engagement in performing their tasks.

Theoretically, this relationship can be explained through the Job Demands–Resources (JD-R) framework, which distinguishes job demands from the resources that help individuals perform their work. Digital competence can be viewed as a personal resource because it helps employees address technical issues, manage information, and adapt to technology-based job demands (Bakker et al., 2023). Meanwhile, AI has the potential to serve as a job resource when its use genuinely aids in task completion and reduces barriers in the workflow. Within this framework, available resources can support motivational processes reflected through work engagement (Fontes & Gaio, 2026). Nevertheless, the benefits of technology remain dependent on job characteristics and how the technology is used. Employee collaboration with AI also indicates that the relationship between technology and work engagement must be understood contextually, as technology can present both opportunities and new demands.

Digital competencies are expected to have a positive relationship with work engagement (Oberländer et al., 2020). Employees who are able to use digital devices and overcome technical obstacles have the potential to perform tasks more smoothly, thereby directing their attention and energy toward achieving work goals. The use of AI is also expected to be associated with work engagement when the technology helps accelerate information processing, provides alternative ways to complete tasks, and supports work that requires creativity (Rick et al., 2024). However, this relationship needs to be empirically tested because the use of technology does not always result in the same work experience for every employee (Adi et al., 2024). Research on generative AI among employees at small and medium-sized enterprises in Vietnam, for example, found that the relationship between AI use and performance involves work engagement and job crafting as mediating mechanisms (Vuong, 2026).

Furthermore, work engagement is expected to have a positive relationship with employee performance. Employees who demonstrate enthusiasm, dedication, and concentration in their work are likely to exert effort more consistently to fulfill their responsibilities. In this study, employee performance refers to work achievements reflected through the quality of results, quantity of work, timeliness, and effectiveness in task execution. These four aspects must be distinguished from digital competencies and

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AI utilization, as both are factors presumed to be related to performance outcomes, not measures of performance themselves. With this distinction, the analysis can be directed toward determining whether digital resources are related to work performance directly or through employee engagement.

Although previous research has examined digital competencies, work engagement, AI utilization, and performance in various contexts, the available evidence indicates that the relationships among these variables have been analyzed through diverse models and mechanisms. Research in the tax sector, for example, examines employee engagement as a mediator in the relationship between digital competencies and performance, while studies on AI in the context of service delivery and the use of generative AI explore its relationship with both engagement and work outcomes.

However, the results of this preliminary review are insufficient to conclude that similar models have never been applied to creative organizations. Therefore, the research gap addressed in this article focuses on the need to comprehensively examine the relationship between digital competence and AI utilization with employee performance with work engagement as a mediator in the context of a creative agency. This study also considers the direct effects of the two independent variables on performance so that the contributions of direct and indirect pathways can be empirically distinguished.

This study aims to analyze the effect of digital competence on work engagement, the effect of AI utilization on work engagement, and the effect of work engagement on employee performance. In addition, this study examines the direct effects of digital competence and AI utilization on employee performance after controlling for mediators, as well as the mediating role of work engagement in both relationships. Specifically, the study proposes two mediation hypotheses: that work engagement mediates the relationship between digital competence and employee performance, and that work engagement mediates the relationship between AI utilization and employee performance. Testing this model is expected to broaden our understanding of the role of work engagement in the relationship between digital competence, AI utilization, and performance outcomes in creative work environments.

Literature Review and Hypothesis/Es Development

2.1. Digital Competence, Artificial Intelligence Adoption, and Work Engagement

Digital competence refers to an individual's ability to utilize digital technology to access, evaluate, manage, and process information, as well as to complete tasks effectively. This competence encompasses not only technical skills but also the ability to think critically, communicate, collaborate, and adapt to technological changes (van Laar et al., 2017). Digital skills are closely related to the 21stcentury skills individuals need to

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meet the demands of modern work. In line with this, (Oberländer et al., 2020) emphasize that digital competence in the workplace encompasses a range of interrelated abilities and is not limited to the operation of technological devices.

From the Job Demands–Resources (JD-R) perspective, personal and job resources can drive motivational processes that support work engagement and positive work outcomes (Syah S et al., 2026). Employees with adequate digital competencies tend to be better able to overcome technical obstacles, use work tools effectively, and adapt to changes in workflows. These abilities have the potential to boost self-confidence and help employees devote their energy and attention to their work. Research (Moafa et al., 2026) also provides an empirical foundation for examining the relationship between digital competencies and work engagement in technology-based work environments. Based on this reasoning, the first hypothesis is formulated as follows.

H1: Digital competence has a positive effect on work engagement.

In addition to digital competencies, the use of Artificial Intelligence (AI) serves as a technological resource with the potential to support work engagement. The use of AI in this study refers to the application of artificial intelligence-based technologies to assist in task completion, improve efficiency, support the quality of work outcomes, integrate workflows, and provide information for decision-making. (Jarrahi, 2018) explains that collaboration between humans and AI can combine machines' analytical capabilities with human judgment in decision-making. (Raisch & Krakowski, 2021) also demonstrate that AI can play a role in automating tasks while simultaneously enhancing human capabilities at work.

A number of empirical studies indicate that generative AI can boost productivity in certain types of work (Dell'Acqua et al., 2026). (Brynjolfsson et al., 2025) also found increased productivity following the implementation of AI-based assistants in customer service roles. In the context of a creative agency, AI can assist with information retrieval, initial idea generation, content processing, and the completion of routine tasks. This support has the potential to reduce the burden of certain tasks, allowing employees to focus more on tasks that require creativity and professional judgment. However, the benefits of AI depend on the technology's alignment with job requirements and employees' ability to use it effectively. Thus, the second hypothesis is formulated as follows.

H2: The use of AI has a positive effect on job engagement

2.2. Work Engagement and Employee Performance

Work engagement is a positive psychological state characterized by vigor, dedication, and absorption (Schaufeli & Bakker, 2004). Employees with high work engagement tend to demonstrate energy, enthusiasm, and concentration when carrying

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out their responsibilities. Within the JD-R framework, work engagement is part of a motivational process that can support the achievement of work outcomes (Lesener et al., 2019).

The relationship between job engagement and performance has been supported by previous research. (Knight et al., 2017), through a systematic review and meta-analysis, demonstrated that job engagement can be enhanced through workplace interventions. (Borst et al., 2020) examined the relationship between job engagement and various work outcomes in public, semi-public, and private sector organizations. Meanwhile, (Corbeanu & Iliescu, 2023), through a meta-analysis, found a positive relationship between work engagement and job performance. These findings reinforce the argument that work engagement is relevant in explaining performance differences among employees.

In a creative agency setting, employee performance can be assessed through the quality of work output, the volume of work completed, timeliness, and the effectiveness of meeting targets. Employees with high job engagement are likely to be more consistent in completing projects, responding to revisions, and maintaining work quality in line with client needs. Therefore, the third hypothesis is formulated as follows.

H3: Job engagement has a positive effect on employee performance.

2.3. Digital Competence, AI Utilization, and Employee Performance

Digital competencies have the potential to enhance performance because they enable employees to use technology appropriately, manage information, collaborate, and complete tasks more efficiently. (Pacheco & Coello-Montecel, 2023) identify digital skills as a crucial component of the competencies required in modern work environments, while (Nuraini et al., 2024) also demonstrate that digital competencies are relevant in work performance that increasingly relies on technology. Thus, digital competencies can be viewed as individual abilities that support the achievement of quality standards, work targets, and timeliness.

The use of AI also has the potential to contribute directly to employee performance. (Noy & Zhang, 2023) show that generative AI assistance can improve performance on certain professional writing tasks. (Dell'Acqua et al., 2026) found that generative AI can help improve the quality and productivity of knowledge work when the tasks performed align with the technology's capabilities. However, the benefits of AI are not universal, as its use still requires human evaluation, oversight, and judgment. (Raisch & Krakowski, 2021) emphasize that the relationship between automation and the enhancement of human capabilities must be understood in a balanced manner.

For employees at creative agencies, digital competencies can support the use of work applications and project coordination, while AI can assist with information

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processing and the preparation of initial work outputs. Both factors are expected to support performance through different mechanisms, whether through employees' technical skills or technological support. Based on this discussion, the fourth and fifth hypotheses are formulated as follows.

H4: Digital competence has a positive effect on employee performance.

H5: The use of AI has a positive effect on employee performance.

2.4. The Mediating Role of Work Engagement

Although digital competence and the use of AI have the potential to directly support performance, this relationship may also occur through job engagement. Within the JD-R framework, personal resources and job resources can support motivational processes related to engagement and work outcomes (Bakker et al., 2023). Digital competence enables employees to better cope with technological demands, while the use of AI can assist in completing specific tasks. Both of these resources have the potential to support work engagement, which in turn is related to employee performance.

Regarding the relationship between digital competence and performance, employees who are able to utilize technology effectively are likely to have greater confidence in completing tasks and adapting to changes in their work. This can foster work engagement, which in turn can encourage employees to maintain their effort and focus on achieving their goals. The relationship between work engagement and performance is supported by research (Borst et al., 2020) and (Corbeanu & Iliescu, 2023). Thus, work engagement is expected to be one of the mechanisms explaining the relationship between digital competence and employee performance.

Regarding the relationship between AI utilization and performance, AI technology can help reduce the time required for specific tasks, provide alternative ways to complete work, and support information processing. When such utilization helps employees manage job demands, work engagement has the potential to serve as a mechanism linking technology use to performance outcomes. However, AI can also contribute directly to performance through increased efficiency; thus, the indirect effect via work engagement need not explain the entire relationship.

Based on a synthesis of theory and prior research, this study examines work engagement as a mediating variable in the relationship between digital competence and AI utilization and employee performance at creative agencies in the Greater Jakarta area. This focus contributes by integrating two relevant resources in the digital work environment into a single research model and by testing the psychological mechanisms that may explain their relationship with performance. Therefore, the mediation hypothesis is formulated as follows.

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H6: Work engagement mediates the effect of digital competence on employee performance.

H7: Work engagement mediates the effect of AI utilization on employee performance.

Overall, the research model positions digital competence and AI utilization as independent variables, work engagement as the mediating variable, and employee performance as the dependent variable. Testing this model is expected to provide an empirical understanding of the direct and indirect relationships between digital competence, AI utilization, work engagement, and employee performance in the context of the creative industry.

Methodology

This study employs a quantitative approach with an explanatory survey design to analyze the effects of digital competence and the use of artificial intelligence (AI) on employee performance, both directly and indirectly through work engagement as a mediating variable. The study population consists of employees at creative agencies in the Greater Jakarta area, with a sample of 184 respondents selected using purposive sampling. Respondent criteria included permanent employees who are directly involved in digital-based work and who have used or are currently using AI in their work.

Primary data was collected via a closed-ended questionnaire distributed online using Google Forms. All items were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Digital competence (X1) encompasses the ability to use digital devices, information literacy, digital collaboration, technological adaptation, and digital problem-solving. AI utilization (X2) includes the use of AI at work, ease of use, efficiency, output quality, integration into workflows, and support for decision-making. Work engagement (M) serves as a mediating variable encompassing the dimensions of vigor, dedication, and absorption, while employee performance (Y) is the dependent variable representing work outcomes. Measurement indicators were adapted to the instruments used in the study.

The quality of the instruments was evaluated through validity and reliability testing. Internal reliability was assessed using Cronbach's alpha, with a value of 0.70 serving as the general benchmark for adequate internal consistency. The test results showed Cronbach's alpha values of 0.713 for digital competence, 0.765 for AI utilization, 0.744 for work engagement, and 0.709 for employee performance. All of these values were above the 0.70 threshold. Validity results were evaluated based on the criteria and outcomes of the instrument testing used in the study.

Hypothesis and mediation testing were conducted using the PROCESS Macro Model 4, a simple regression-based mediation model (Hayes, 2022). The analysis

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included testing the effects of digital competence and AI utilization on work engagement, the effect of work engagement on employee performance, and the direct effects of the two independent variables on performance after accounting for the mediator. Indirect effects were tested using a bootstrapping procedure with 5,000 samples and a 95% confidence interval. An indirect effect was considered significant if the bootstrap confidence interval did not include zero. Partial mediation was interpreted when the indirect effect was significant and the direct effects of the predictors on the dependent variable remained significant after the mediator was included. The analysis was conducted using statistical software that supports the PROCESS Macro. The software version and PROCESS Macro version are listed according to the actual software used. Given that the data were collected through a survey, the research results are interpreted as statistical relationships between variables and are not considered definitive evidence of causality.

RESULTS AND DISCUSSION

Results

4.1. Results of the Research Instrument Testing

Instrument validation was conducted to evaluate the validity and reliability of the questionnaire used in the study. Based on the data analysis report, the reliability test yielded Cronbach's alpha values of 0.713 for digital competence, 0.765 for the use of Artificial Intelligence (AI), 0.744 for work engagement, and 0.709 for employee performance. All of these values are above the 0.70 threshold used in this study, so the internal consistency of the instrument is considered adequate.

Table 1. Results of the Instrument Reliability Test

Variable	Cronbach's Alpha	Description
Digital Competence	0,713	Reliable
Use of Artificial Intelligence (AI)	0,765	Reliable
Work Engagement	0,744	Reliable
Employee Performance	0,709	Reliable

The results in Table 1 show that all variables have Cronbach's alpha values above 0.70. Thus, the instrument demonstrates adequate internal consistency for use in analyzing relationships between variables. The highest alpha value was found in the AI utilization variable, at 0.765, while the lowest value was found in employee performance, at 0.709. However, adequate reliability does not in itself prove the validity of the instrument. Therefore, the validity test results for each indicator still need to be examined and reported based on the actual item correlation values.

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4.2. Results of Direct Effect Tests

Direct effect tests were conducted to determine the relationship between digital competence and AI utilization with work engagement and employee performance. The tests also included the relationship between work engagement and employee performance after the independent variables were accounted for in the mediation model.

Table 2. Results of Direct Effect Tests Between Variables

Relationships Between Variables	Coefficient	Standard Error	t	p-value
Digital Competence → Work Engagement	0,5227	0,0679	7,7001	<) (0,001
AI Adoption → Work Engagement	0,3759	0,0574	6,5503	<) (0,001
Work Engagement → Employee Performance (Model 1)	0,4255	0,0761	5,5933	<) (0,001
Work Engagement → Employee Performance (Model 2)	0,4233	0,0727	5,8229	<) (0,001
Digital Competence → Employee Performance	0,2303	0,0802	2,8710	0,0046
AI Adoption → Employee Performance	0,2174	0,0626	3,4752	0,0006

Note: Model 1 tests digital competence in conjunction with work engagement, while Model 2 tests the use of AI in conjunction with work engagement.

Table 2 shows that all tested relationships have positive coefficients and are statistically significant at the 5% significance level. Digital competence has a coefficient of 0.5227 for work engagement, while AI utilization has a coefficient of 0.3759. These results indicate that higher scores in digital competence and AI utilization are associated with higher work engagement scores among the study's respondents.

In the first model, work engagement had a coefficient of 0.4255 regarding employee performance. Meanwhile, in the second model, the coefficient was 0.4233. Both coefficients were significant with $p < 0.001$. These findings indicate that work engagement has a positive relationship with employee performance, whether digital competence or AI utilization serves as a predictor in the model.

Furthermore, digital competence continues to have a positive and significant direct effect on employee performance, with a coefficient of 0.2303 and $p = 0.0046$. AI utilization also demonstrates a positive and significant direct effect on employee performance, with a coefficient of 0.2174 and $p = 0.0006$. These results serve as the basis for further testing of indirect effects through work engagement.

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4.3. Results of the Coefficient of Determination Test

The coefficient of determination (R^2) is used to explain the proportion of variation in the dependent variable that can be accounted for by the predictors in each research model.

Table 3. Coefficient of Determination (R^2) Results

Model	R^2	Percentage of Variation Explained
Digital Competence → Work Engagement	0,2457	24,57%
AI Adoption → Work Engagement	0,1908	19,08%
Digital Competence dan Work Engagement → Employee Performance	0,2888	28,88%
AI Adoption dan Work Engagement → Employee Performance	0,3030	30,30%

Based on Table 3, digital competence explains 24.57% of the variation in work engagement, while AI utilization explains 19.08% of the variation in work engagement in their respective models. For the employee performance variable, the model involving digital competence and work engagement yields an R^2 of 0.2888. Meanwhile, the model involving AI utilization and work engagement yields an R^2 of 0.3030.

These results indicate that both models account for some of the variation in employee performance but do not yet encompass all factors related to performance. Thus, other factors outside the models such as organizational support, leadership, workload, and role clarity still have the potential to explain the unaccounted-for variation in performance. These factors represent avenues for future research rather than variables tested in this study.

4.4. Results of the Work Engagement Mediation Test

The mediation test was conducted using PROCESS Macro Model 4 with a bootstrap method involving 5,000 samples and a 95% confidence interval across 184 respondents. This test aimed to determine whether work engagement acts as a mediating mechanism in the relationship between digital competence and AI utilization and employee performance. An indirect effect was considered significant if the bootstrap confidence interval did not include zero.

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Table 4. Results of the Indirect Effect Test

Medition Path	Indirect Effect	BootSE	Lower Bound 95% CI	Upper Limit of 95% CI	Decision
Digital Competence → Work Engagement → Employee Performance	0,2224	0,0885	0,0551	0,3762	Significant
AI Utilization→ Work Engagement → Employee Performance	0,1591	0,0771	0,0314	0,3134	Significant

The results in Table 4 show that the indirect effect of digital competence on employee performance through work engagement is 0.2224, with a BootSE of 0.0885 and a 95% confidence interval between 0.0551 and 0.3762. Since this interval does not include zero, the indirect effect is considered significant. Thus, H6, which states that work engagement mediates the effect of digital competence on employee performance, is supported by the analysis results.

Regarding the relationship between AI utilization and employee performance, the indirect effect via work engagement is 0.1591, with a BootSE of 0.0771 and a 95% confidence interval ranging from 0.0314 to 0.3134. This interval also does not include zero, so the indirect effect is deemed significant. Therefore, H7, which states that work engagement mediates the effect of AI utilization on employee performance, is also supported.

Tests of direct effects show that digital competence and AI utilization continue to have a positive and significant effect on employee performance after controlling for work engagement. Thus, the research results are consistent with a partial mediation pattern in both relationships. This means that work engagement explains part of the relationship between digital competence and AI utilization and performance, but it is not the only pathway identified in the model.

DISCUSSION

4.5. The Effect of Digital Competence on Work Engagement

The research results show that digital competence is positively and significantly associated with work engagement, with a coefficient of 0.5227 and $p < 0.001$. An R^2 value of 0.2457 indicates that digital competence explains 24.57% of the variation in work engagement within the tested model. These findings suggest that employees' ability to utilize digital technology is related to their engagement in performing their work.

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In the context of a creative agency, digital competence is relevant because the work involves the use of digital devices, information management, collaboration, adaptation to technology, and the completion of tasks that require coordination and revision. Employees with adequate digital competence are better equipped to handle technical obstacles, allowing them to focus on task completion. This explanation aligns with the Job Demands–Resources (JD-R) framework, which identifies personal and job resources as factors that can support motivational processes and work engagement (Bakker et al., 2023).

However, the research findings do not prove that digital competence automatically increases work engagement under all conditions. This relationship can still be influenced by job characteristics, organizational support, and the availability of resources needed by employees. Therefore, the development of digital competence should be accompanied by learning opportunities, technical support, and a work environment that allows employees to use their skills optimally.

4.6. The Effect of AI Utilization on Work Engagement

The use of AI shows a positive and significant relationship with work engagement, with a coefficient of 0.3759 and $p < 0.001$. An R^2 value of 0.1908 indicates that AI usage explains 19.08% of the variation in work engagement within the tested model. These results demonstrate that the use of AI in the workplace is associated with employee work engagement.

In creative agencies, AI can be used to assist with information retrieval, generate alternative ideas, process initial materials, and support the completion of specific tasks. When used in accordance with job requirements, this technology has the potential to help employees manage tasks and allocate their attention to activities that require creativity and professional judgment. This explanation aligns with the view that the relationship between humans and AI in the workplace must take into account the division of tasks between technological capabilities and human judgment (Raisch & Krakowski, 2021).

However, the use of AI does not always result in the same work experience for every employee. Its benefits may depend on ease of use, output quality, the user's ability to verify information, and the technology's compatibility with workflows. Therefore, organizations need to provide training and guidelines for the responsible use of AI. These findings are best interpreted as a positive association within the study sample, rather than as evidence that increased AI use always leads to increased work engagement.

4.7. The Effect of Work Engagement on Employee Performance

The analysis results show that work engagement has a positive and significant effect on employee performance in both models. The coefficient is 0.4255 in the digital

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competency model and 0.4233 in the AI utilization model, with $p < 0.001$ in both models. These results indicate that work engagement is associated with employee performance after controlling for the main predictors.

Work engagement is characterized by enthusiasm, dedication, and a sense of fulfillment in one's work. Employees with higher work engagement are more likely to consistently devote their energy and attention to fulfilling their responsibilities. In a creative agency, such engagement is particularly relevant to tasks requiring precision, meeting project deadlines, responding to revisions, and maintaining the quality of work output.

These findings align with a study (Corbeanu & Iliescu, 2023), which, through a meta-analysis, found a positive relationship between work engagement and job performance. Within the JD-R framework, work engagement is part of the motivational process related to work outcomes (Bakker et al., 2023). Thus, the research findings support the importance of considering employees' psychological factors in addition to technical skills and technological availability when organizations seek to improve performance.

Nevertheless, the R^2 values of 0.2888 and 0.3030 indicate that the model does not yet explain the entire variation in employee performance. Therefore, work engagement should be understood as one of the factors related to performance, not as the sole determinant of work achievement.

4.8. The Direct Effect of Digital Competence on Employee Performance

Digital competence exhibits a positive and significant direct effect on employee performance, with a coefficient of 0.2303 and $p = 0.0046$ after work engagement was included in the model. These results indicate that the relationship between digital competence and performance is not fully explained by work engagement.

The ability to use digital devices, evaluate information, collaborate via digital platforms, and adapt to technology can support more effective task completion. In creative agency work, these abilities have the potential to help employees manage workflows, tailor outputs to project needs, and complete tasks requiring technological skills.

These findings suggest that the development of digital competencies should be directed toward real-world job needs, not merely toward mastery of applications. Training that combines technical skills, information literacy, collaboration, and problem-solving has the potential to help employees leverage technology to support their performance. However, since this study used survey data, the results should be interpreted as statistically significant associations, not definitive evidence of causality.

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4.9. The Direct Effect of AI Adoption on Employee Performance

The use of AI has a positive and significant direct effect on employee performance, with a coefficient of 0.2174 and p = 0.0006 after accounting for work engagement. This finding suggests that the relationship between AI use and performance does not occur entirely through work engagement.

AI has the potential to assist with work through information processing, generating alternatives, and supporting the completion of specific tasks. In a creative agency environment, these benefits may relate to workflow efficiency and support for output quality. However, AI outputs still require human review and evaluation to ensure they align with work objectives, client needs, and organizational standards.

These research findings underscore the importance of targeted AI use. It is not enough for organizations to simply provide the technology; they must also ensure that employees understand the technology's limitations, are capable of evaluating its outputs, and uphold professional responsibility. Thus, the use of AI must be integrated with digital competencies and work systems that support the quality and accountability of work outcomes.

4.10. The Mediating Role of Work Engagement in the Relationship Between Digital Competence and Employee Performance

The mediation test results show that the indirect effect of digital competence on employee performance through work engagement is 0.2224, with a 95% bootstrap confidence interval ranging from 0.0551 to 0.3762. Since this interval does not include zero, the indirect effect is deemed significant. At the same time, the direct effect of digital competence on employee performance remains positive and significant, with a coefficient of 0.2303 and p = 0.0046. Therefore, the research results support H6 and are consistent with partial mediation.

These findings indicate that the relationship between digital competence and performance involves two pathways in the research model. The first pathway is a direct relationship, wherein digital competence is associated with employees' ability to perform technology-based tasks. The second pathway is an indirect relationship via work engagement. Digital competence can help employees cope with the demands of digital work, while work engagement relates to the energy, dedication, and concentration required to complete tasks.

From a JD-R perspective, these results support the understanding that personal resources can be linked to motivational processes that, in turn, are related to work outcomes. However, since the direct effect remains significant after the mediator is included, work engagement does not fully explain the relationship between digital competence and employee performance. This means that developing digital competence

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and efforts to build work engagement should be viewed as two complementary aspects of employee management.

4.11. The Mediating Role of Work Engagement in the Relationship Between AI Utilization and Employee Performance

The mediation test also showed that AI utilization has an indirect effect on employee performance through work engagement of 0.1591, with a 95% bootstrap confidence interval ranging from 0.0314 to 0.3134. Since this interval does not include zero, the indirect effect is deemed significant. The direct effect of AI utilization on employee performance also remains positive and significant, with a coefficient of 0.2174 and p = 0.0006. Thus, H7 is supported, and the pattern of results is consistent with partial mediation.

The results indicate that the relationship between AI utilization and performance involves two pathways. AI can directly support task execution through technological assistance, while work engagement serves as a significant mediating mechanism in the model. When AI is used in accordance with job requirements, the technology has the potential to aid in information processing and task completion. Meanwhile, work engagement relates to employees' ability to maintain effort, attention, and dedication in carrying out their responsibilities.

These findings underscore that the use of technology should not be separated from employees' psychological well-being. Organizations need to integrate the implementation of AI with training, clear procedures, evaluation of technological outcomes, and a work environment that fosters employee engagement. Although the indirect effect of AI utilization (0.1591) is numerically smaller than the indirect effect of digital competence (0.2224), this difference cannot yet be deemed significant without formal testing of the difference between the two effects. Therefore, these results are more appropriately used to demonstrate that both mediation pathways are significant, rather than to conclude that one is statistically stronger than the other.

4.12. Theoretical and Practical Implications

Theoretically, this study expands our understanding of the relationship between digital competence and AI utilization with employee performance through work engagement. The test results show that both predictors have a direct relationship with performance as well as an indirect effect through work engagement. This partial mediation pattern indicates that work engagement is a relevant mediating mechanism but does not explain the entire relationship among the variables.

Within the JD-R framework, digital competence can be understood as a personal resource, while AI can serve as a technological resource when its use supports task

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execution. Both aspects are related to work engagement, which in turn is linked to employee performance. Nevertheless, this theoretical interpretation must still take into account the work context and the limitations of the survey design used.

In practice, managers of creative agencies need to develop digital competencies aligned with job requirements, provide responsible AI training, and foster work conditions that support employee engagement. The development of digital competencies may include information literacy, collaboration, technological adaptation, and problem-solving. The implementation of AI must be accompanied by guidelines for output verification, data protection, and accountability in technology use. Additionally, setting clear goals, providing constructive feedback, offering learning opportunities, and ensuring a reasonable distribution of workloads can be considered to support work engagement.

This study has limitations. First, the single-period survey design does not allow for definitive causal conclusions. Second, the use of purposive sampling limits the generalizability of the results to all employees or organizations outside the characteristics of the study sample. Third, the available data do not include complete details regarding the respondents' demographic characteristics and the data collection period. Future research could employ a longitudinal design, expand the scope of the organizations included, incorporate performance evaluations from supervisors or objective indicators, and examine additional factors such as organizational support, AI literacy, and job characteristics.

CONCLUSIONS

5.1. Conclusion

This study aimed to analyze the relationship between digital competencies and the use of artificial intelligence (AI) with employee performance through work engagement as a mediating variable among 184 employees of a creative agency in the Greater Jakarta area. The results show that digital competence and AI utilization have a positive and significant effect on both work engagement and employee performance. Additionally, work engagement also has a positive and significant effect on employee performance. These findings underscore the relevance of work engagement in explaining the relationship between digital capabilities, technology utilization, and performance outcomes.

The mediation test results showed that work engagement mediates the relationship between digital competence and employee performance, with an indirect effect coefficient of 0.2224. Mediation was also found in the relationship between AI utilization and employee performance, with an indirect effect coefficient of 0.1591. Both indirect effects were significant, while the direct effects of each variable on performance

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remained significant after accounting for the mediators. Thus, the research results are consistent with a partial mediation pattern in both relationships.

Theoretically, this study provides insight that the relationship between digital competence and AI utilization with employee performance is not only related to technical skills and technological support but also to employees' psychological engagement in performing their work. Practically, creative agencies need to integrate the development of digital competencies and the responsible use of AI with efforts to foster work engagement. Nevertheless, the study's results should be interpreted as statistical relationships found in the study sample and cannot yet be taken as definitive evidence of a cause-and-effect relationship.

5.2. Research Limitation

This study has several limitations. First, the cross-sectional design does not allow researchers to definitively establish a causal relationship between variables. Second, the use of purposive sampling among 184 employees of creative agencies in the Greater Jakarta area limits the generalizability of the results to a broader population. Third, data collected via self-administered questionnaires may introduce response bias. Additionally, the measurement of AI usage did not distinguish between application types, user proficiency levels, and the characteristics of the tasks performed.

5.3. Recommendations and Directions for Future Research

Future research is recommended to use a longitudinal design to observe the relationships between variables over time and to expand the scope of respondents to different regions and industry sectors. The use of performance data from supervisors or objective indicators may also be considered to complement respondents' self-assessments. In addition, future research could examine other factors, such as AI literacy, trust in AI, organizational support, and work autonomy, to deepen the understanding of the mechanisms linking digital competence and AI adoption to performance through work engagement. Practically speaking, organizations need to integrate digital and AI training with strategies to enhance work engagement so that the use of technology can support performance in a sustainable manner.

Acknowledgement

The authors would like to express their gratitude to all respondents who participated in this study and provided valuable information for the research. The authors also appreciate the support and assistance of all parties who contributed to the completion of this study. No specific external funding was received for this research.

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