

Enhancing Employee Engagement among Young Lecturers during Digital Transformation: The Mediating Role of Digital Readiness

Mahmudin^{1*}, Hengki Nurhuda², Eneng Wiliana³

¹ Institut Asyifa, Jl. Raya Krangkeng No. 07, Indramayu, West Java, Indonesia

^{2&3} Universitas Muhammadiyah Tangerang, Jl. Perintis Kemerdekaan I No. 33, RT.001/RW.002, Kelurahan Babakan/Sukasari, Kecamatan Tangerang, Kota Tangerang, Banten 15118, Indonesia

ARTICLE INFO



Email Correspondence:
doktormahmudin@gmail.com

Keywords:
Digital Work Culture; Perceived Organizational Support; Digital Readiness; Employee Engagement; Young Lecturers.

DOI:
<https://doi.org/10.33096/jmb.v13i2.1765>

ABSTRACT

Employee engagement has become increasingly important for higher education institutions undergoing digital transformation. This study examines the influence of Digital Work Culture and Perceived Organizational Support on Employee Engagement through the mediating role of Digital Readiness among young lecturers. A quantitative cross-sectional survey design was employed involving 100 young lecturers at Muhammadiyah University of Tangerang. Data were collected using structured questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The findings indicate that Digital Work Culture and Perceived Organizational Support positively influence Digital Readiness, which subsequently enhances Employee Engagement. Digital Readiness also serves as a significant mediating mechanism linking organizational resources to lecturer engagement. This study contributes to employee engagement literature by explaining how digital readiness facilitates the translation of organizational support and digital work practices into higher engagement during digital transformation.

ABSTRAK

Keterikatan dosen menjadi faktor penting bagi perguruan tinggi yang sedang menghadapi transformasi digital. Penelitian ini bertujuan menganalisis pengaruh Digital Work Culture dan Perceived Organizational Support terhadap Employee Engagement melalui peran mediasi Digital Readiness pada dosen muda. Penelitian menggunakan pendekatan kuantitatif dengan desain survei potong lintang yang melibatkan 100 dosen muda Universitas Muhammadiyah Tangerang. Data dikumpulkan menggunakan kuesioner terstruktur dan dianalisis menggunakan Partial Least Squares Structural Equation Modeling (PLS-SEM) melalui SmartPLS 4. Hasil penelitian menunjukkan bahwa Digital Work Culture dan Perceived Organizational Support berpengaruh positif terhadap Digital Readiness yang selanjutnya meningkatkan Employee Engagement. Digital Readiness juga berperan sebagai mediator yang signifikan. Penelitian ini berkontribusi dalam menjelaskan mekanisme bagaimana sumber daya organisasi meningkatkan keterikatan dosen pada era transformasi digital.



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

1. INTRODUCTION

Digital transformation has become one of the most significant trends shaping contemporary higher education institutions. The rapid advancement of digital technologies has fundamentally changed how universities conduct teaching, research, community service, and administrative activities. Learning management systems, virtual collaboration platforms, cloud-based services, artificial intelligence applications, and digital academic information systems have become integral components of university operations. Consequently, higher education institutions are increasingly required to develop organizational environments that support digital adaptation while maintaining employee well-being and performance (Bond et al., 2018).

Recent studies have emphasized that digital transformation in higher education is no longer limited to technological infrastructure but also requires academic personnel who possess adequate digital competencies and readiness to adapt to emerging technologies. The success of institutional digital transformation largely depends on the ability of lecturers to integrate digital technologies into teaching, research, and academic administration (Verhoef et al., 2021).

Despite the benefits of digital transformation, universities face substantial challenges in managing human resources during periods of technological change. Digital transformation not only requires technological infrastructure but also demands employees who are willing and capable of adapting to new digital environments. Among academic personnel, young lecturers represent a particularly important group because they are expected to lead innovation, integrate technology into teaching and research, and contribute to institutional competitiveness. However, the increasing reliance on digital systems may simultaneously create challenges related to technological adaptation, workload management, and employee engagement (Radivojević, 2025).

This study was conducted at Muhammadiyah University of Tangerang (UMT), one of the private Islamic universities in Indonesia that has actively implemented digital transformation across academic and administrative functions. The university has adopted Learning Management Systems (LMS), digital academic information systems, online administrative services, electronic attendance, virtual meetings, cloud-based document management, and various digital communication platforms to support teaching, research, and institutional governance. Consequently, young lecturers are expected not only to deliver technology-enhanced learning but also to adapt to digital academic administration, online collaboration, research information systems, and continuous technological innovation. Despite these initiatives, variations in lecturers' digital readiness remain evident, creating differences in how effectively organizational support and digital work practices translate into stronger employee engagement. This institutional context provides an appropriate setting for examining the mediating role of Digital Readiness during higher education digital transformation.

Within this digital transformation context, Employee Engagement has emerged as a critical organizational outcome in higher education institutions. Employee engagement refers to a positive work-related psychological state characterized by vigor, dedication, and absorption (Schaufeli & Bakker, 2003). Engaged lecturers tend to demonstrate higher teaching effectiveness, stronger research productivity, greater organizational commitment, and increased willingness to contribute beyond formal job responsibilities (Knight et al., 2017). Therefore, identifying organizational factors that enhance employee engagement remains an important research priority.

Although universities continue to invest in digital technologies and digital infrastructure, differences in individual readiness remain a significant challenge in achieving successful digital transformation. Digital transformation initiatives often fail to generate expected outcomes when employees lack the competence, confidence, and adaptability required to utilize digital technologies effectively. In higher education institutions, lecturers are expected to continuously adapt to evolving technological demands while maintaining their academic responsibilities. Consequently, Digital Readiness has emerged as a critical factor influencing how lecturers respond to digital transformation and engage with their work (Brown, 2025).

One organizational factor that may influence employee engagement is Digital Work Culture. Digital Work Culture refers to organizational values, norms, and practices that support technology utilization, digital collaboration, innovation, and knowledge sharing within the workplace (V M, 2025). A supportive digital work culture enables employees to access information efficiently, collaborate effectively, and adapt to organizational changes. Previous studies have suggested that digital work culture contributes positively to employee engagement because it facilitates flexibility, innovation, and work effectiveness (Aliddin et al., 2024). However, other studies have reported that digital transformation may generate technostress, information overload, and work-related pressure when employees lack sufficient support and preparedness (Molino et al., 2020). These inconsistent findings indicate the need for further investigation regarding the mechanisms through which digital work environments influence employee engagement.

Another important organizational factor is Perceived Organizational Support (POS). POS reflects employees' perceptions regarding the extent to which organizations value their contributions and care about their well-being (Kurtessis et al., 2017). Organizational support may be manifested through recognition systems, professional development opportunities, technological assistance, mentoring programs, and concern for employee welfare. Existing studies consistently indicate that employees who perceive strong organizational support tend to demonstrate higher engagement, commitment, and job satisfaction (Luo, 2020). Nevertheless, limited evidence explains how organizational support contributes to employee engagement within the context of digital transformation in higher education institutions.

Although the relationships between Digital Work Culture, Perceived Organizational Support, and Employee Engagement have been examined in previous studies, several important research gaps remain. First, from an empirical perspective, most previous studies were conducted in corporate organizations, public institutions, healthcare organizations, and technology-based companies, while empirical evidence from higher education institutions remains relatively limited. Second, from a theoretical perspective, existing studies predominantly focus on direct relationships between organizational factors and employee engagement without adequately explaining the underlying mechanism through which organizational resources influence engagement. Third, from a contextual perspective, studies involving young lecturers as a specific workforce segment remain scarce despite their strategic role in supporting institutional digital transformation. Furthermore, research conducted in Indonesian Islamic private universities is still limited compared with studies conducted in public universities or corporate settings.

To illustrate these gaps, Table 1 summarizes selected studies related to employee engagement, digital work culture, organizational support, and digital readiness.

Table 1. Mapping of Previous Studies and Research Gap

Author	Research Context	Variables	Main Findings	Research Gap
(Molino et al., 2020)	Digitalization - Engagement	Corporate sector	Mixed findings	No mediating mechanism
(Luo, 2020)	POS - Engagement	Various organizations	Positive relationship	No digital transformation context

(Shams et al., 2020)	POS – Engagement	Public sector	Positive effect	No digital readiness variable
(Johari et al., 2013)	Digital Culture – Engagement	Technology companies	Positive effect	Not focused on higher education
(Verhoef et al., 2021)	Digital Readiness	Digital transformation	Strategic capability	Not linked to employee engagement
Present Study	DWC, POS, DR, EE	Young lecturers	Integrated model	Addresses theoretical and contextual gaps

Source: Compiled by the authors based on previous studies (2026).

The concept of Digital Readiness offers a promising perspective for addressing these gaps. Digital Readiness refers to an individual's capability, confidence, and willingness to effectively adopt and utilize digital technologies in performing work-related activities (Verhoef et al., 2021). In higher education institutions, digital readiness reflects lecturers' preparedness to integrate digital tools into teaching, research, communication, and administrative responsibilities. Employees with higher levels of digital readiness are generally more capable of adapting to technological changes and are more likely to experience positive work outcomes during digital transformation.

Drawing upon Social Exchange Theory (SET), organizational resources such as Digital Work Culture and Perceived Organizational Support are expected to enhance Digital Readiness, which subsequently promotes Employee Engagement. SET argues that employees tend to reciprocate favorable organizational treatment through positive attitudes and behaviors (Cropanzano et al., 2017). Therefore, when universities provide supportive digital environments and adequate organizational support, lecturers may develop greater digital readiness, which ultimately strengthens their engagement toward institutional goals and activities.

The primary contribution of this study is to explain how Digital Readiness functions as the key mechanism through which Digital Work Culture and Perceived Organizational Support are translated into stronger Employee Engagement among young lecturers during digital transformation. Rather than treating Digital Readiness merely as an additional explanatory variable, this study positions it as a strategic personal capability that enables organizational resources to generate higher employee engagement. By integrating organizational resources and individual capability within the framework of Social Exchange Theory, this study also provides empirical evidence from an Indonesian Islamic private university, a higher education context that remains underrepresented in the employee engagement literature. Accordingly, this study extends Social Exchange Theory by arguing that organizational resources alone are insufficient to strengthen Employee Engagement unless lecturers possess adequate Digital Readiness to transform these resources into effective work behavior.

Accordingly, this study aims to examine the influence of Digital Work Culture and Perceived Organizational Support on Employee Engagement through the mediating role of Digital Readiness among young lecturers at Muhammadiyah University of Tangerang. The findings are expected to contribute theoretically to employee engagement and digital transformation literature while providing practical insights for university leaders in designing human resource strategies that support lecturer engagement during digital transformation.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Social Exchange Theory

This study is grounded in Social Exchange Theory (SET), which explains that relationships between employees and organizations are based on reciprocal exchanges of resources and benefits (Cropanzano et al., 2017). Employees who perceive favorable treatment from their organizations tend to reciprocate through positive attitudes and behaviors, including commitment, engagement, and organizational citizenship behavior. In the context of digital transformation, organizational resources such as a supportive digital work culture and organizational support can encourage employees to develop greater readiness to utilize digital technologies, which subsequently strengthens their engagement.

Within the perspective of Social Exchange Theory, organizational resources do not automatically generate positive work attitudes. Employees must possess sufficient personal capability to recognize, utilize, and transform these organizational resources into meaningful work experiences. In the context of digital transformation, Digital Readiness represents this strategic personal capability, encompassing lecturers' digital competence, confidence, adaptability, and willingness to embrace technological change. Therefore, Digital Readiness should not be viewed merely as a statistical mediating variable but as the psychological and behavioral mechanism through which supportive digital work environments and organizational support are translated into stronger Employee Engagement. Lecturers who are digitally prepared are better able to utilize institutional resources, experience lower technological anxiety, and develop stronger dedication and involvement in their academic responsibilities.

2.2. Employee Engagement

Employee Engagement refers to a positive, fulfilling, and work-related psychological state characterized by vigor, dedication, and absorption (Schaufeli & Bakker, 2003). Vigor reflects high levels of energy and resilience while working, dedication refers to enthusiasm and a sense of significance toward work, and absorption describes deep concentration and immersion in work-related activities.

In higher education institutions, employee engagement is particularly important because lecturers perform multiple roles, including teaching, research, community service, and academic administration. Engaged lecturers are more likely to demonstrate superior teaching quality, research productivity, and institutional commitment (Knight et al., 2017). Furthermore, employee engagement has been recognized as a key determinant of organizational sustainability and competitiveness in dynamic environments.

The digital transformation of higher education has increased the importance of engagement because lecturers are expected to continuously adapt to technological innovation while maintaining academic performance. Consequently, identifying organizational and individual factors that contribute to employee engagement remains a critical research agenda.

2.3. Digital Work Culture

Digital Work Culture refers to organizational values, norms, and practices that encourage the effective use of digital technologies, virtual collaboration, innovation, and knowledge sharing within the workplace (Radivojević, 2025). A strong digital work culture facilitates communication, promotes learning, supports innovation, and enables employees to perform their tasks more effectively.

In higher education institutions, digital work culture is reflected in the implementation of learning management systems, virtual meeting platforms, cloud-based collaboration tools, digital academic services, and technology-enabled decision-making processes. Universities that cultivate supportive digital cultures are generally more capable of adapting to technological change and fostering innovation among academic staff (Saputra, 2026).

Previous studies have shown that digital work environments positively influence employee attitudes and work outcomes by increasing flexibility, efficiency, and collaboration (Aliyev, 2024). However, digital transformation may also generate challenges such as technostress and resistance to change when employees are not adequately prepared (Molino et al., 2020). These findings suggest that the influence of Digital Work Culture on employee outcomes may depend on employees' readiness to adopt digital technologies.

2.4. Digital Work Culture and Digital Readiness

Digital Work Culture provides organizational conditions that encourage employees to learn, experiment with, and utilize digital technologies. Through continuous exposure to digital systems and collaborative digital practices, employees develop the skills, confidence, and adaptability necessary for successful digital transformation. Employees who work in digitally supportive environments tend to perceive technology as a useful resource rather than a source of pressure. Consequently, Digital Work Culture is expected to strengthen Digital Readiness among lecturers.

H1: Digital Work Culture has a positive and significant effect on Digital Readiness among young lecturers.

2.5. Digital Work Culture and Employee Engagement

A supportive digital work environment may also directly influence employee engagement by facilitating effective communication, work flexibility, and collaboration. Employees who perceive that digital technologies enhance their work experiences are more likely to exhibit greater enthusiasm and involvement in their work. Previous studies have reported positive relationships between digital work environments and employee engagement (Aliyev, 2024). Therefore, the following hypothesis is proposed:

H2: Digital Work Culture has a positive and significant effect on Employee Engagement among young lecturers.

2.6. Perceived Organizational Support

Perceived Organizational Support (POS) refers to employees' beliefs regarding the extent to which their organization values their contributions and cares about their well-being (Kurtessis et al., 2017). POS reflects organizational recognition, fairness, support, and concern for employees' professional and personal needs.

Within higher education institutions, organizational support may include professional development programs, mentoring systems, academic recognition, workload flexibility, technological assistance, and opportunities for career advancement. Employees who perceive strong organizational support generally develop stronger emotional attachment and commitment toward their institutions (Luo, 2020).

2.7. Perceived Organizational Support and Digital Readiness

Organizations that provide adequate support encourage employees to engage in learning and adaptation processes associated with technological change. Through training opportunities, technical assistance, and institutional encouragement, employees become more confident and capable of utilizing digital technologies. Accordingly, lecturers who perceive strong organizational support are expected to demonstrate higher levels of Digital Readiness.

H3: Perceived Organizational Support has a positive and significant effect on Digital Readiness among young lecturers.

2.8. Perceived Organizational Support and Employee Engagement

Social Exchange Theory suggests that employees reciprocate favorable organizational treatment through positive attitudes and behaviors. Employees who feel appreciated and supported by their organizations are more likely to exhibit stronger engagement and commitment. Empirical evidence consistently indicates that POS positively influences employee engagement across different organizational contexts (Luo, 2020). Therefore, the following hypothesis is proposed:

H4: Perceived Organizational Support has a positive and significant effect on Employee Engagement among young lecturers.

2.9. Digital Readiness

Digital Readiness refers to an individual's capability, confidence, and willingness to effectively adopt and utilize digital technologies in performing work-related activities (Verhoef et al., 2021). Digital readiness encompasses digital competence, technological confidence, adaptability, and openness toward digital innovation.

Digital readiness has increasingly been recognized as a strategic capability that determines the effectiveness of digital transformation initiatives. Individuals with high levels of digital readiness are more likely to adopt technological innovations, participate in digital collaboration, and respond positively to organizational change. Consequently, digital readiness has become an important factor in improving employee performance and engagement in digitally transformed organizations (Verhoef et al., 2021).

In higher education institutions, Digital Readiness is particularly important because lecturers are increasingly required to integrate technology into teaching, research, academic administration, and professional collaboration. Lecturers with high levels of Digital Readiness are generally more capable of adapting to technological change and leveraging digital tools to enhance their performance.

2.10. Digital Readiness and Employee Engagement

Employees who possess strong digital readiness tend to experience greater confidence and lower anxiety when confronted with technological changes. Such conditions enable them to perform their responsibilities more effectively and derive more positive experiences from their work. As a result, Digital Readiness is expected to contribute positively to Employee Engagement.

H5: Digital Readiness has a positive and significant effect on Employee Engagement among young lecturers.

2.11. The Mediating Role of Digital Readiness

Although previous studies have demonstrated the importance of Digital Work Culture and Perceived Organizational Support for employee engagement, limited research has examined the mechanism through which these organizational resources influence engagement. Drawing upon Social Exchange Theory, organizational resources may not directly generate positive work outcomes unless employees possess the capability and readiness to utilize such resources effectively.

Digital Readiness functions as an important personal resource that enables employees to transform organizational support and digital work practices into meaningful work experiences. Lecturers who are digitally prepared are more likely to benefit from digital work environments and organizational support, thereby increasing their engagement.

H5: The mediating role of Digital Readiness therefore represents the primary theoretical contribution of this study.

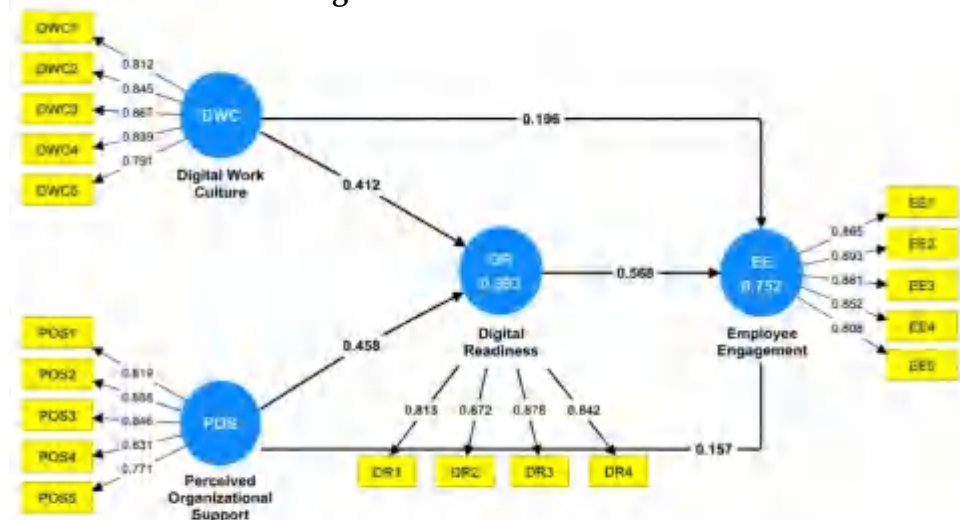
H6: Digital Readiness mediates the relationship between Digital Work Culture and Employee Engagement among young lecturers.

H7: Digital Readiness mediates the relationship between Perceived Organizational Support and Employee Engagement among young lecturers.

2.12. Conceptual Framework

Based on Social Exchange Theory and previous empirical studies, Digital Work Culture and Perceived Organizational Support are proposed as organizational resources that influence Employee Engagement directly and indirectly through Digital Readiness. The proposed framework explains how organizational conditions foster digital preparedness, which subsequently enhances lecturers' engagement during digital transformation.

Figure 1. Research Framework



Source: Developed by the authors based on Social Exchange Theory and previous studies (2026).

Figure 1 illustrates the proposed research framework. The model assumes that Digital Work Culture and Perceived Organizational Support function as organizational resources that directly influence Employee Engagement and indirectly influence Employee Engagement through Digital Readiness. In the context of higher education digital transformation, lecturers who experience a supportive digital work environment and strong organizational support are expected to develop higher levels of Digital Readiness. Such readiness enables lecturers to adapt effectively to technological changes and utilize digital technologies in academic activities, thereby strengthening their engagement. Therefore, Digital Readiness is positioned as a mediating mechanism that explains how organizational resources are translated into positive work attitudes and behaviors among young lecturers.

Based on the conceptual framework, the following hypotheses are proposed:

- H1: Digital Work Culture has a positive and significant effect on Digital Readiness.
- H2: Digital Work Culture has a positive and significant effect on Employee Engagement.
- H3: Perceived Organizational Support has a positive and significant effect on Digital Readiness.
- H4: Perceived Organizational Support has a positive and significant effect on Employee Engagement.
- H5: Digital Readiness has a positive and significant effect on Employee Engagement.
- H6: Digital Readiness mediates the relationship between Digital Work Culture and Employee Engagement.
- H7: Digital Readiness mediates the relationship between Perceived Organizational Support and Employee Engagement.

3. RESEARCH METHOD

This study employed a quantitative research approach using a cross-sectional survey design to examine the relationships among Digital Work Culture, Perceived Organizational Support, Digital Readiness, and Employee Engagement among young lecturers. A quantitative approach was selected because it enables the empirical testing of theoretical relationships among latent variables and facilitates the examination of mediation effects within a structural model. The study adopted Partial Least Squares Structural Equation Modeling (PLS-SEM) as the primary analytical technique because of its suitability for predictive research, complex structural relationships, and mediation analysis involving latent constructs (J. Hair & Alamer, 2022).

3.1. Research Setting and Population

The research was conducted at Muhammadiyah University of Tangerang, one of the largest private Islamic higher education institutions in Indonesia that has actively implemented digital transformation initiatives in academic and administrative processes. The target population consisted of young lecturers actively engaged in teaching, research, community service, and institutional activities.

In this study, young lecturers were defined as lecturers aged below 40 years who actively participated in digital-based academic activities. The focus on young lecturers was based on the assumption that this group represents a strategic human resource segment expected to adapt rapidly to technological changes and contribute to institutional innovation and competitiveness during digital transformation.

3.2. Sample and Sampling Technique

The study involved 100 young lecturers selected using purposive sampling. This technique was employed because respondents were required to meet specific criteria relevant to the objectives of the study. The inclusion criteria were as follows:

1. Full-time lecturer at Muhammadiyah University of Tangerang.
2. Aged below 40 years.
3. Possessing a minimum of one year of teaching experience.
4. Actively involved in digital-based academic activities, including online learning, digital academic administration, and institutional information systems.

The sample consisted of 100 young lecturers selected through purposive sampling. The sample size was considered adequate based on the recommendations for Partial Least Squares Structural Equation Modeling (PLS-SEM). According to (J. Hair & Alamer, 2022), the minimum sample size should consider the maximum number of structural paths pointing to an endogenous construct. In the proposed model, Employee Engagement receives three incoming structural paths (Digital Work Culture, Perceived Organizational Support, and Digital Readiness). Therefore, the final sample of 100 respondents substantially exceeds the minimum requirement for estimating the structural model and provides sufficient statistical power for testing both direct and mediating relationships.

3.3. Data Collection Procedure

Data were collected through a structured questionnaire distributed electronically using institutional communication platforms. Prior to the main survey, the instrument underwent content validation through expert review involving academics with expertise in human resource management, organizational behavior, and higher education management. Feedback obtained during the validation process was used to improve the clarity, relevance, and contextual appropriateness of the measurement items.

Participation in the survey was voluntary. Respondents were informed about the purpose of the study, confidentiality procedures, and the academic use of the collected information. A total of 100 questionnaires were returned and deemed complete for further analysis.

3.4. Measurement of Variables

All constructs in this study were measured using previously validated instruments adapted to the context of higher education and digital transformation. Responses were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Prior to data collection, the measurement items were reviewed and adapted to ensure contextual relevance for young lecturers in higher education institutions.

Digital Work Culture was measured using five indicators adapted from (V M, 2025) reflecting technology utilization, digital collaboration, digital communication, and innovation orientation. Perceived Organizational Support was measured using five indicators adapted from the Survey of Perceived Organizational Support (SPOS) developed by (Kurtessis et al., 2017), capturing organizational recognition, appreciation, concern, and professional support. Digital Readiness was measured using four indicators adapted from (Verhoef et al., 2021), representing digital competence, digital confidence, adaptability, and readiness for digital transformation. Employee Engagement was measured using five indicators adapted from the Utrecht Work Engagement Scale (UWES), covering vigor, dedication, and absorption (Schaufeli & Bakker, 2004).

The operational definitions and measurement dimensions of all constructs are presented in Table 2.

Table 2. Operational Definition and Measurement of Variables

Variable	Definition	Dimensions	Source
Digital Work Culture (DWC)	Organizational values and practices that encourage the effective use of digital technologies, collaboration, communication, and innovation in the workplace.	Technology Utilization, Digital Collaboration, Digital Communication, Innovation Orientation	(Khan et al., 2025)
Perceived Organizational Support (POS)	Employees' perceptions regarding the extent to which the organization values their contributions and cares about their well-being.	Organizational Recognition, Organizational Appreciation, Organizational Care, Professional Development Support	(Kurtessis et al., 2017)
Digital Readiness (DR)	Individual capability, confidence, adaptability, and willingness to utilize digital technologies effectively.	Digital Competence, Digital Confidence, Technology Adaptability, Readiness for Digital Change	(Verhoef et al., 2021)
Employee Engagement (EE)	A positive work-related psychological state characterized by vigor, dedication, and absorption.	Vigor, Dedication, Absorption	(Schaufeli & Bakker, 2004)

Source: Adapted from previous studies and compiled by the authors (2026).

To ensure measurement quality, reliability and validity assessments were conducted through outer loading, Cronbach's Alpha, Composite Reliability (CR), Average Variance Extracted (AVE), and Heterotrait-Monotrait Ratio (HTMT) during the PLS-SEM analysis stage.

3.5. Measurement Items

The measurement instruments used in this study were adapted from established and validated scales reported in previous studies. All items were translated and contextualized to reflect the higher education environment and digital transformation experiences of young lecturers. A pilot review involving academic experts was conducted to ensure the clarity, relevance, and appropriateness of the items before the main survey was administered.

Digital Work Culture was measured using five items adapted from (Khan et al., 2025). The items assessed lecturers' perceptions regarding technology utilization, digital communication, collaboration, and innovation within the university environment. Perceived Organizational Support was measured using five items adapted from the Survey of Perceived Organizational Support (SPOS) developed by (Kurtessis et al., 2017), focusing on organizational recognition,

appreciation, and institutional concern for lecturers' well-being. Digital Readiness was measured using four items adapted from (Verhoef et al., 2021), capturing respondents' confidence, competence, adaptability, and preparedness to engage with digital technologies. Employee Engagement was measured using five items adapted from the Utrecht Work Engagement Scale (UWES) developed by (Schaufeli & Bakker, 2004), representing vigor, dedication, and absorption. The measurement items used in this study are presented in Table 3.

Table 3. Measurement Items

Variable		Code	Measurement Item
Digital Work Culture (DWC)		DWC1	The university encourages the use of digital technologies in academic activities.
		DWC2	Digital platforms facilitate collaboration among lecturers.
		DWC3	Digital communication systems improve work effectiveness.
		DWC4	The university promotes innovation through digital technologies.
		DWC5	Digital systems support academic and administrative processes effectively.
Perceived Organizational Support (POS)		POS1	The university values my contribution to institutional development.
		POS2	The university recognizes my achievements and accomplishments.
		POS3	The university cares about my well-being.
		POS4	The university provides adequate support when I encounter work-related difficulties.
		POS5	The university supports my professional and career development.
Digital Readiness (DR)		DR1	I possess adequate digital skills to perform my academic responsibilities.
		DR2	I am confident in using digital technologies in my work.
		DR3	I can easily adapt to newly introduced digital systems.
		DR4	I am prepared to participate in ongoing digital transformation initiatives.
Employee Engagement (EE)		EE1	I feel energetic when performing my work as a lecturer.
		EE2	I am enthusiastic about my work.

EE3	I feel proud of the work that I do.
EE4	I am fully immersed in my work activities.
EE5	Time passes quickly when I am working.

Source: Data Processed, 2026

All measurement items were evaluated using reflective measurement criteria in the PLS-SEM analysis. Indicator reliability was assessed through outer loadings, while construct reliability and validity were examined using Cronbach's Alpha, Composite Reliability (CR), Average Variance Extracted (AVE), and Heterotrait-Monotrait Ratio (HTMT) following the recommendations of (J. Hair & Alamer, 2022).

3.6. Data Analysis Technique

The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software. PLS-SEM was selected because it is suitable for predictive research models involving multiple latent constructs, mediation effects, and relatively complex relationships among variables. In addition, PLS-SEM is considered appropriate for exploratory and theory-development research, particularly when the primary objective is to explain variance and predict endogenous constructs (J. F. Hair et al., 2014).

The analysis was conducted through a two-step approach consisting of measurement model evaluation and structural model evaluation. The measurement model assessment was performed to ensure the reliability and validity of the constructs, whereas the structural model assessment was conducted to examine the proposed hypotheses and the predictive capability of the research model. Furthermore, the significance of both direct and indirect effects was assessed using the bias-corrected bootstrapping procedure with 5,000 bootstrap subsamples in SmartPLS 4. The bootstrapping procedure generated path coefficients (β), standard deviations (STDEV), t-statistics, p-values, and bias-corrected 95% confidence intervals used for hypothesis testing and mediation analysis (J. Hair & Alamer, 2022).

3.7. Measurement Model Evaluation

The measurement model was evaluated to assess the psychometric properties of the research instruments. Indicator reliability was examined through outer loading values, with a minimum acceptable threshold of 0.70. Internal consistency reliability was assessed using Cronbach's Alpha and Composite Reliability (CR), where values exceeding 0.70 indicated satisfactory reliability.

Convergent validity was evaluated using the Average Variance Extracted (AVE), with values above 0.50 indicating that the construct explained more than half of the variance of its indicators. Discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT), where values below 0.90 indicated adequate discriminant validity among constructs. These procedures ensured that each construct measured distinct conceptual dimensions and possessed acceptable levels of reliability and validity.

3.8. Structural Model Evaluation

After establishing the adequacy of the measurement model, the structural model was assessed to test the proposed hypotheses and evaluate the predictive power of the model. The

significance of the structural relationships was examined through path coefficients (β), t-statistics, and p-values generated from the bootstrapping procedure.

The explanatory power of the model was evaluated using the coefficient of determination (R^2), which indicates the proportion of variance explained by the predictor variables in each endogenous construct. Effect size (f^2) was used to assess the contribution of individual exogenous variables to the explained variance of endogenous constructs. Predictive relevance (Q^2) was evaluated using the blindfolding procedure to determine the predictive capability of the model.

To examine the mediating role of Digital Readiness, indirect effects were assessed using bootstrapping analysis. Mediation was considered significant when the indirect effect demonstrated a p-value below 0.05. The nature of mediation was further interpreted based on the significance of both direct and indirect relationships between the independent variables and Employee Engagement. Hypotheses were accepted when the p-value was less than 0.05 and the corresponding t-statistic exceeded 1.96 at a 95% confidence level.

3.9. Ethical Considerations

This study adhered to ethical principles governing social science and educational research. Participation was entirely voluntary, and respondents were informed about the objectives, procedures, and academic purpose of the study prior to completing the questionnaire. Informed consent was obtained from all participants before data collection commenced.

The anonymity and confidentiality of respondents were strictly maintained throughout the research process. No personally identifiable information was collected, and all responses were analyzed in aggregate form. The collected data were used exclusively for academic and research purposes and were stored securely to prevent unauthorized access. Furthermore, respondents were informed that they could withdraw from the study at any stage without any consequences. By ensuring voluntary participation, confidentiality, and responsible data management, this study complied with the ethical standards commonly applied in higher education and social science research.

4. RESULTS AND DISCUSSION

4.1. Result

A total of 100 questionnaires were distributed and successfully returned, resulting in a response rate of 100%. All returned questionnaires met the inclusion criteria and were considered valid for further analysis. The respondents consisted of young lecturers actively involved in teaching, research, community service, and digital-based academic activities at Muhammadiyah University of Tangerang.

Table 4. Respondent Characteristics

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	46	46.0
	Female	54	54.0
Age	< 30 Years	28	28.0
	30–35 Years	42	42.0
	36–39 Years	30	30.0
Academic Rank	Lecturer	62	62.0
	Assistant Professor	38	38.0

Teaching Experience	1–5 Years	57	57.0
	6–10 Years	31	31.0
	>10 Years	12	12.0

Source: Research Data (2026).

Consistent with the inclusion criteria, all respondents were younger than 40 years of age. Therefore, the highest age category represents lecturers aged 36–39 years. The findings indicate that the majority of respondents were female lecturers (54%), aged between 30 and 35 years (42%), and had teaching experience ranging from one to five years (57%). This profile reflects a productive and technologically adaptive academic workforce, making them an appropriate population for examining employee engagement during digital transformation.

Measurement Model Evaluation

Indicator reliability was evaluated using outer loading values. As illustrated in Figure 1, all indicators achieved loading values above the recommended threshold of 0.70, indicating that the indicators adequately represented their respective latent constructs. The outer loading values for Digital Work Culture ranged from 0.791 to 0.867, Perceived Organizational Support ranged from 0.771 to 0.888, Digital Readiness ranged from 0.813 to 0.878, and Employee Engagement ranged from 0.808 to 0.893. Therefore, all indicators were retained for subsequent analysis.

Reliability and Convergent Validity

Reliability and convergent validity were assessed using Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE).

Table 5. Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
Digital Work Culture	0.887	0.917	0.691
Perceived Organizational Support	0.901	0.927	0.719
Digital Readiness	0.893	0.925	0.755
Employee Engagement	0.911	0.934	0.740

Source: SmartPLS Analysis (2026).

The results show that all constructs achieved Cronbach's Alpha and Composite Reliability values above 0.70, indicating satisfactory internal consistency reliability. Furthermore, all AVE values exceeded 0.50, confirming adequate convergent validity.

Discriminant Validity

Discriminant validity was evaluated using the Heterotrait-Monotrait Ratio (HTMT). The results are presented in Table 6.

Table 6. HTMT Results

Constructs	DWC	POS	DR	EE
DWC	-			
POS	0.624	-		
DR	0.718	0.694	-	
EE	0.701	0.723	0.781	-

Source: SmartPLS Analysis (2026).

All HTMT values were below the recommended threshold of 0.90, indicating that the constructs possessed adequate discriminant validity and measured distinct conceptual domains.

Collinearity Assessment

Collinearity was assessed by examining the Inner Variance Inflation Factor (VIF) values for all predictor constructs in the structural model. According to Hair and Alamer (2022), Inner VIF values below 5.00 indicate that multicollinearity is not a concern in PLS-SEM analysis. The results are presented in Table 6A.

Table 6A. Inner VIF Values

Relationship	Inner VIF
Digital Work Culture → Digital Readiness	1.342
Perceived Organizational Support → Digital Readiness	1.342
Digital Work Culture → Employee Engagement	1.687
Perceived Organizational Support → Employee Engagement	1.593
Digital Readiness → Employee Engagement	1.521

Source: SmartPLS 4 Inner VIF Output (2026).

All Inner VIF values ranged from 1.342 to 1.687, which are well below the recommended threshold of 5.00. These findings indicate that multicollinearity was not present among the predictor constructs, confirming that the structural model is suitable for hypothesis testing.

Structural Model Evaluation

The coefficient of determination (R^2) was used to assess the explanatory power of the structural model.

Table 7. Coefficient of Determination

Endogenous Construct	R^2
Digital Readiness	0.693
Employee Engagement	0.752

Source: SmartPLS Analysis (2026).

The findings indicate that Digital Work Culture and Perceived Organizational Support explain 69.3% of the variance in Digital Readiness. Furthermore, Digital Work Culture, Perceived Organizational Support, and Digital Readiness jointly explain 75.2% of the variance in Employee

Engagement. According to (Hair & Alamer, 2022), these values indicate substantial explanatory power.

Effect Size (f^2)

The effect size analysis was conducted to determine the relative contribution of each predictor variable.

Table 8. Effect Size (f^2)

Relationship	f^2	Interpretation
DWC → DR	0.213	Medium
POS → DR	0.247	Medium
DR → EE	0.365	Large
DWC → EE	0.052	Small
POS → EE	0.038	Small

Source: SmartPLS Analysis (2026).

The largest effect size was observed in the relationship between Digital Readiness and Employee Engagement, highlighting the strategic role of digital readiness in fostering lecturer engagement.

Predictive Relevance (Q^2)

Predictive relevance was assessed using the blindfolding procedure.

Table 9. Predictive Relevance (Q^2)

Endogenous Construct	Q^2
Digital Readiness	0.486
Employee Engagement	0.551

Source: SmartPLS Analysis (2026).

Since all Q^2 values exceeded zero, the structural model demonstrates satisfactory predictive relevance and possesses adequate predictive capability.

Hypothesis Testing

The significance of the direct relationships among constructs was assessed using path coefficients obtained from the bootstrapping procedure.

Table 10. Direct Effects

Hypothesis	Relationship	β	STDEV	t-value	p-value	Decision
H1	Digital Work Culture → Digital Readiness	0.412	0.075	5.493	0.000	Supported
H2	Digital Work Culture → Employee Engagement	0.196	0.089	2.202	0.028	Supported

H3	Perceived Organizational Support → Digital Readiness	0.458	0.071	6.451	0.000	Supported
H4	Perceived Organizational Support → Employee Engagement	0.157	0.078	2.013	0.044	Supported
H5	Digital Readiness → Employee Engagement	0.568	0.062	9.161	0.000	Supported

Source: SmartPLS 4 Bootstrapping Analysis (2026).

Table 10 presents the complete bootstrapping results, including path coefficients (β), standard deviations (STDEV), t-statistics, and p-values. All structural relationships were positive and statistically significant ($p < 0.05$), thereby supporting hypotheses H1–H5. Digital Readiness exerted the strongest direct effect on Employee Engagement ($\beta = 0.568$), followed by Perceived Organizational Support on Digital Readiness ($\beta = 0.458$) and Digital Work Culture on Digital Readiness ($\beta = 0.412$). In contrast, the direct effects of Digital Work Culture ($\beta = 0.196$) and Perceived Organizational Support ($\beta = 0.157$) on Employee Engagement were comparatively smaller, indicating that organizational resources contribute more effectively to engagement by first enhancing lecturers' Digital Readiness.

Mediation Analysis

The indirect effects were examined to determine the mediating role of Digital Readiness.

Table 11. Indirect Effects

Hypothesis	Relationship	β	STDEV	t-value	p-value	Lower CI	Upper CI	Mediation	Decision
H6	Digital Work Culture → Digital Readiness → Employee Engagement	0.234	0.047	4.979	0.000	0.144	0.328	Partial	Supported
H7	Perceived Organizational Support → Digital Readiness → Employee Engagement	0.260	0.050	5.200	0.000	0.163	0.359	Partial	Supported

Source: SmartPLS 4 Bootstrapping Analysis (2026).

Table 11 presents the bootstrapping results for the indirect effects. Both indirect relationships are positive and statistically significant, as indicated by the t-statistics, p-values, and bias-corrected 95% confidence intervals that exclude zero. Because the direct effects (Table 10) and the indirect effects (Table 11) remain statistically significant, Digital Readiness functions as a

partial mediator in the relationships between Digital Work Culture and Employee Engagement as well as between Perceived Organizational Support and Employee Engagement. These findings indicate that organizational resources enhance Employee Engagement not only directly but also indirectly by strengthening lecturers' Digital Readiness during digital transformation.

4.2. Discussion

The Effect of Digital Work Culture on Digital Readiness

The findings reveal that Digital Work Culture positively influences Digital Readiness among young lecturers. This result suggests that universities that foster technology utilization, digital communication, virtual collaboration, and innovation create conditions that strengthen lecturers' readiness to engage with digital transformation initiatives.

At Muhammadiyah University of Tangerang, digital work culture is reflected through the implementation of Learning Management Systems (LMS), digital academic information systems, electronic attendance systems, online meetings, cloud-based document management, and digital administrative services. The continuous use of these technologies encourages lecturers to develop digital competencies and confidence in utilizing technological resources. Consequently, lecturers become more prepared to adapt to emerging digital demands and institutional transformation. This finding supports previous studies indicating that organizational digital environments facilitate the development of employees technological capabilities and adaptability (V M, 2025).

The Effect of Perceived Organizational Support on Digital Readiness

Perceived Organizational Support was found to positively affect Digital Readiness. This finding indicates that lecturers who perceive strong institutional support tend to exhibit greater confidence and willingness to engage with digital technologies.

Within the context of Muhammadiyah University of Tangerang, organizational support may be reflected through technology training programs, research funding opportunities, mentoring systems, publication assistance, professional development activities, and institutional recognition of academic achievements. These support mechanisms enable lecturers to feel valued and encouraged, thereby increasing their readiness to participate in digital transformation initiatives. This result is consistent with Social Exchange Theory, which suggests that employees reciprocate organizational support through positive attitudes and adaptive behaviors.

The Effect of Digital Readiness on Employee Engagement

The strongest relationship identified in this study was between Digital Readiness and Employee Engagement. The finding suggests that lecturers who possess higher levels of digital competence, confidence, and adaptability are more likely to experience enthusiasm, dedication, and immersion in their academic responsibilities.

Digital readiness enables lecturers to utilize digital technologies effectively in teaching, research, academic administration, and scholarly collaboration. As a result, they experience lower technological anxiety and greater confidence in performing their work, which ultimately strengthens employee engagement.

The findings further support contemporary perspectives suggesting that the sustainability of digital transformation in higher education depends not only on technological infrastructure but also on the readiness of academic staff to effectively utilize digital technologies. Universities may invest substantially in digital platforms and information systems; however, the benefits of such investments cannot be fully realized without lecturers who possess adequate digital competence, confidence, and adaptability. Therefore, strengthening digital readiness should become a strategic priority for universities seeking to improve employee engagement and institutional competitiveness in the digital era (Nugroho et al., 2024).

This finding is further supported by the mediation analysis, which demonstrates that Digital Readiness functions as the primary mechanism through which Digital Work Culture and Perceived Organizational Support are translated into stronger Employee Engagement. These results reinforce the argument that organizational resources alone are insufficient to maximize engagement unless lecturers possess the capability and confidence to utilize digital technologies effectively.

This finding highlights that digital transformation in higher education is not solely dependent on technological infrastructure but also requires lecturers who are psychologically and technically prepared to utilize digital resources effectively.

The Direct Effects of Digital Work Culture and Perceived Organizational Support on Employee Engagement

Both Digital Work Culture and Perceived Organizational Support directly influence Employee Engagement. These findings indicate that organizational resources contribute to lecturer engagement through multiple pathways.

A supportive digital work culture creates a more efficient and collaborative working environment, while organizational support strengthens lecturers' perceptions of being valued and appreciated by the institution. Together, these factors enhance lecturers' emotional attachment to their work and institutional goals. However, the relatively smaller direct effects compared with the effect of Digital Readiness suggest that organizational resources become more effective when lecturers possess adequate readiness to utilize available digital opportunities.

The Mediating Role of Digital Readiness

The most important contribution of this study lies in the identification of Digital Readiness as a significant mediating mechanism. The findings demonstrate that Digital Work Culture and Perceived Organizational Support influence Employee Engagement not only directly but also indirectly through Digital Readiness.

This finding extends Social Exchange Theory by demonstrating that organizational resources alone are insufficient to maximize employee engagement. Rather, Digital Readiness functions as a strategic personal capability that enables lecturers to transform supportive organizational environments into positive work attitudes and behaviors. In other words, organizational resources create the opportunity for engagement, whereas Digital Readiness determines the extent to which these opportunities are effectively utilized by lecturers.

The findings suggest that universities seeking to strengthen lecturer engagement should not focus exclusively on technological infrastructure or organizational support programs. Equal

attention should be devoted to enhancing lecturers' digital readiness through continuous training, digital mentoring, technology workshops, and capacity-building initiatives.

Theoretical Implications

This study contributes to the employee engagement literature by extending Social Exchange Theory within the context of digital transformation in higher education. The findings demonstrate that Digital Readiness serves as an important mediating mechanism linking organizational resources and employee engagement. Furthermore, this study enriches existing knowledge by providing empirical evidence from young lecturers working in an Indonesian Islamic private university, a context that remains underrepresented in previous studies.

Practical Implications

The findings offer several practical implications for university management. First, institutions should strengthen digital work culture through the integration of digital technologies into academic and administrative processes. Second, universities should enhance organizational support by providing professional development opportunities, research support, mentoring systems, and recognition programs. Third, targeted initiatives aimed at improving lecturers' digital readiness should be prioritized because digital readiness represents the most influential factor affecting employee engagement in the context of digital transformation.

5. CONCLUDING REMARKS AND RECOMMENDATION

Concluding Remarks

This study examined the relationships among Digital Work Culture, Perceived Organizational Support, Digital Readiness, and Employee Engagement among young lecturers at Muhammadiyah University of Tangerang during the ongoing digital transformation of higher education. The findings demonstrate that Digital Work Culture and Perceived Organizational Support significantly contribute to the development of Digital Readiness. Furthermore, Digital Readiness exerts the strongest influence on Employee Engagement, indicating that lecturers' preparedness to adopt and utilize digital technologies is a critical determinant of engagement in the digital era.

The results also reveal that Digital Work Culture and Perceived Organizational Support directly influence Employee Engagement. More importantly, Digital Readiness partially mediates these relationships, suggesting that organizational resources become more effective in fostering engagement when lecturers possess adequate digital competence, confidence, adaptability, and readiness for technological change.

From a theoretical perspective, this study extends Social Exchange Theory by demonstrating that Digital Readiness functions as an important mechanism through which organizational resources are translated into positive work attitudes and behaviors. The study contributes to the employee engagement literature by integrating organizational and individual perspectives within a single explanatory framework and by providing empirical evidence from the context of young lecturers in an Indonesian Islamic private university.

From a practical perspective, the findings emphasize that universities should not only invest in digital infrastructure and organizational support systems but should also strengthen lecturers' digital readiness. Developing digitally prepared academic personnel is essential for

sustaining employee engagement and institutional performance in increasingly technology-driven educational environments.

Recommendations

Based on the findings, several recommendations are proposed for higher education institutions, particularly those undergoing digital transformation. First, universities should strengthen Digital Work Culture by promoting the consistent use of digital technologies in teaching, research, academic administration, and institutional communication. The optimization of Learning Management Systems (LMS), digital academic information systems, cloud-based collaboration platforms, and data-driven decision-making processes can create a more supportive digital working environment.

Second, institutional leaders should enhance Perceived Organizational Support through comprehensive professional development programs, research grants, publication support, mentoring initiatives, recognition systems, and flexible work arrangements. Such support can increase lecturers' perceptions that the institution values their contributions and is committed to their professional growth.

Third, universities should prioritize programs aimed at improving Digital Readiness among lecturers. Regular digital skills training, technology workshops, digital mentoring programs, and continuous learning opportunities can strengthen lecturers' competence and confidence in adapting to technological change. Since Digital Readiness emerged as the strongest predictor of Employee Engagement, investments in digital capability development are likely to generate substantial organizational benefits.

Fourth, policymakers and university administrators should integrate digital readiness development into institutional strategic plans and human resource management policies. Such initiatives will help ensure that digital transformation efforts are accompanied by adequate human capital development.

Despite its contributions, this study has several limitations. The research was conducted within a single institution, which may limit the generalizability of the findings. Because the respondents were recruited from a single Indonesian Islamic private university, the findings should be generalized cautiously and are primarily applicable to higher education institutions with comparable organizational characteristics, governance structures, and stages of digital transformation. Consequently, caution should be exercised when extending these findings to public universities or institutions operating in substantially different organizational contexts.

Overall, this study highlights the strategic importance of Digital Readiness as the key mechanism that bridges organizational resources and Employee Engagement during higher education digital transformation. Accordingly, strengthening Digital Readiness should become a strategic priority for higher education institutions seeking to improve lecturer engagement and ensure the long-term success of digital transformation initiatives. Universities should therefore focus not only on strengthening organizational support and digital infrastructure but also on developing lecturers who are psychologically, technically, and professionally prepared to thrive in an increasingly digital academic environment.

STATEMENT OF USE OF GENERATIVE AI

Generative AI was used solely for language editing and manuscript formatting purposes. The authors reviewed and verified all content and take full responsibility for the accuracy, integrity, and originality of the manuscript. No AI tools were used for data collection, data analysis, interpretation of results, or conclusion development.

REFERENCE

- Aliddin, L. A., Syaifuddin, D. T., Montundu, Y., & Marlina, S. (2024). The Impact of Perceived Organizational Support and Social Support on Employee Performance: The Mediating Role of Organizational Commitment. *Journal of Economics, Business, and Accountancy Ventura*, 27(2), 253–273. <https://doi.org/10.14414/jebav.v27i2.4610>
- Aliyev, J. (2024). The Impact of Digital Transformation on Organizational Culture and Employee Engagement. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4772230>
- Bond, M., Marín, V. I., Dolch, C., Bedenlier, S., & Zawacki-Richter, O. (2018). Digital transformation in German higher education: student and teacher perceptions and usage of digital media. *International Journal of Educational Technology in Higher Education*, 15(1), 1–20. <https://doi.org/10.1186/s41239-018-0130-1>
- Brown, L. (2025). Review of The Abundant University: Remaking Higher Education for a Digital World, by Michael D. Smith. *Education Review*, 32(2023). <https://doi.org/10.14507/er.v32.4127>
- Cropanzano, R., Anthony, E. L., Daniels, S. R., & Hall, A. V. (2017). Social exchange theory: A critical review with theoretical remedies. *Academy of Management Annals*, 11(1), 479–516. <https://doi.org/10.5465/annals.2015.0099>
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 1–16. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hair, J. F., G. Tomas, M. H., M. Ringle, C., & Sarstedt, M. (2014). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). *Sage Publications*, 1–293.
- Johari, J., Adnan, Z., Yean, T. F., Yahya, K. K., & Isa, S. N. (2013). Fostering employee engagement through human resource practices: A case of manufacturing firms in Malaysia. *Jurnal Pengurusan*, 38, 15–26. <https://doi.org/10.17576/pengurusan-2013-38-02>
- Khan, A. N., Wang, Y., Khan, N. A., & Ahmad, A. (2025). Digital Leadership Enhances Employee Empowerment, Techno-work Engagement, and Sustainability: SEM Analysis in Public Healthcare. *Inquiry (United States)*, 62. <https://doi.org/10.1177/00469580251317653>
- Knight, C., Patterson, M., & Dawson, J. (2017). Building work engagement: A systematic review and meta-analysis investigating the effectiveness of work engagement interventions. *Journal of Organizational Behavior*, 38(6), 792–812. <https://doi.org/10.1002/job.2167>
- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived Organizational Support: A Meta-Analytic Evaluation of Organizational Support Theory. *Journal of Management*, 43(6), 1854–1884. <https://doi.org/10.1177/0149206315575554>
- Luo, H. (2020). Review of Research Progress on Perceived Organizational Support and Organizational Identity. *Open Journal of Business and Management*, 08(02), 809–819. <https://doi.org/10.4236/ojbm.2020.82050>
- Molino, M., Ingusci, E., Signore, F., Manuti, A., Giancaspro, M. L., Russo, V., Zito, M., & Cortese, C. G. (2020). Wellbeing costs of technology use during Covid-19 remote working: An investigation using the Italian translation of the technostress creators scale. *Sustainability (Switzerland)*, 12(15), 1–20. <https://doi.org/10.3390/SU12155911>
- Nugroho, H., Riyadi, S., Mudjijah, S., Maulana, P., & Safitra, R. (2024). The Influence of Digital

- Leadership on Employee Performance with Digital Culture as A Moderating Variable. *Maneggio*, 1(6), 45–55. <https://doi.org/10.62872/jt6pfc66>
- Radivojević, V. (2025). Digital Transformation in Higher Education. *Immersive Technology for the Gig Economy*, 22(2), 71–100. <https://doi.org/10.4018/979-8-3373-1290-3.ch003>
- Saputra, D. E. (2026). *Digital Transformation in Higher Education Management : Analysis of Readiness and Implementation*. 34–45.
- Schaufeli, W. B., & Bakker, A. B. (2003). UWES Utrecht Work Engagement Scale. *Occupational Health Psychology Unit Utrecht University, Version 1*(November), 1–58. [http://www.schaufeli.com/downloads/tests/Test manual UWES.pdf](http://www.schaufeli.com/downloads/tests/Test%20manual%20UWES.pdf)
- Schaufeli, W. B., & Bakker, A. B. (2004). Utrecht work engagement scale Preliminary Manual Version 1.1. *Occupational Health Psychology Unit Utrecht University*, (December), 1–60. <https://doi.org/10.1037/t01350-000>
- Shams, M. S., Niazi, M. M., & Asim, F. (2020). The Relationship Between Perceived Organizational Support, Employee Engagement, and Organizational Citizenship Behavior: Application of PLS-SEM Approach. *Kardan Journal of Economics and Manangement Sciences*, 3(1), 34–54. <https://doi.org/10.31841/kjems.2021.37>
- V M, L. (2025). The Impact of Digital Transformation on Organizational Performance in Small and Medium Enterprises. *International Journal of Administration and Management Research Studies (IJAMRS)*, 1(3), 114. <https://doi.org/10.63090/ijamrs/3107.9695.0016>
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Qi Dong, J., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122(July 2018), 889–901. <https://doi.org/10.1016/j.jbusres.2019.09.022>