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DIGITAL TRANSFORMATION AND LEADERSHIP: THE MEDIATING ROLE OF ORGANIZATIONAL ADAPTATION IN PERFORMANCE

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ABSTRACT: This study examines the influence of digital transformation and digital leadership on employee performance through organizational adaptation in private universities. By situating informatization, HRM systems, and leadership styles within adaptive processes, the research provides empirical evidence of how digital integration fosters workforce performance. A quantitative approach was employed with 352 respondents, including HR staff, lecturers, and administrators from a private university in Bandung using a digital HRM system. Data were gathered via structured questionnaires and analyzed using SEM-PLS with SmartPLS 4.0. Results show that digital transformation and leadership exert both direct and indirect effects on performance through organizational adaptation. The academic contribution lies in extending HRM and leadership literature by framing digital leadership as a mechanism that converts digital transformation into sustainable performance via adaptation. Practically, the findings underscore the need to strengthen adaptive capacity, enhance digital competencies, and cultivate digital leadership in higher education institutions.

Keywords: Digital Transformation; Digital Leadership; Organizational Adaptation; Employee Performance; Higher Education

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INTRODUCTION

In a time of technological disruption and rapid global digitalization, higher education institutions such as private universities in Indonesia are facing challenges and opportunities to transform their organizations, particularly in human resource management (HRM). Digital transformation is more than just the adoption of digital technology; it is a profound change in how organizations operate, including the redefinition of processes, internal communication, and employee development using digital tools (Vial, 2019). For private colleges in Bandung City—one of Indonesia's main educational centers—digitalization has become an urgent necessity to remain competitive and to enhance the effectiveness of both organizational performance and academic as well as non-academic services.

A digital transformation of HRM is particularly relevant because it increases HRM effectiveness by digitalizing recruitment, training, performance management, and career development processes (Bondarouk & Brewster, 2016). This is consistent with Sengupta et al. (2023), who highlight how digital HRM enhances productivity, transparency, and responsiveness to change. However, the success of these efforts depends on how well organizations and individuals adapt to such changes.

Organizational adaptation becomes a key linking mechanism between technological innovations and employee performance. It involves aligning organizational structures, processes, culture, and human resources with the requirements of the digital environment (Al-Haddad & Kotnour, 2015). Without adaptive capacity, digitalization may instead create resistance, stress, and diminished performance (Vuori et al., 2019). Recent evidence shows that adoption of technology-based HRM practices is already widespread across Indonesian organizations — one survey reported that about 68% of sampled Indonesian organizations had implemented technology-based HRM practices by 2023 — highlighting a broader national shift toward HR digitalization that likely extends into higher education (Adawiah, et al., 2023). At the university level, several leading institutions (e.g., Universitas Indonesia) operate institutional HRIS platforms, which illustrates that Indonesian universities are implementing digital HR systems in practice, even though a single, comprehensive national statistic specifically for universities is not available in the public domain (Universitas Indonesia, 2023). This scarcity of university-specific national data increases the urgency of this study: it helps fill a contextual evidence gap by focusing empirically on private universities in Bandung and their adaptive capacity in the face of HRM digitalization (Ramaditya et al., 2023).

Digital leadership also has strategic importance in accelerating transformation and fostering a digitally adaptive culture. Leaders with a clear digital vision, the ability to use technology effectively, and encouragement of innovation can improve organizational readiness for change and employee motivation (Sawy et al., 2016; Zeike et al., 2019). Digital leadership not only promotes technology but also steers behavioral change, management principles, and collaborative cultures rooted in digital practices (Warner & Wäger, 2019).

Employee efficiency is crucial in knowledge-based organizations such as universities, where performance includes not only meeting job-related goals but also contributing to broader institutional objectives. In private universities, employee performance plays a central role in ensuring the quality of academic and administrative services, student satisfaction, and institutional reputation. Armstrong & Taylor (2020) emphasize that leadership, work technology, and contextual adaptation are critical determinants of performance. Hence, interventions to strengthen digital transformation and adaptive digital leadership represent a strategic investment for optimizing performance in the digital era.

Technology dynamics and the work flexibility provided through digital systems increasingly influence how employees perform. Organizations that foster a digitally enabled work environment with strong managerial support can motivate employees to work more effectively, innovatively, and collaboratively (Choudhury et al., 2021). Accordingly, private universities must establish modern work systems that are competitive while also promoting employee well-being and sustainable productivity. Employee performance remains a key determinant of institutional efficiency in higher education. Universities need human resources that are adaptable and service-oriented. Therefore, the interplay between digital transformation, digital leadership, and organizational adaptation in enhancing HRM performance is important to examine.

This research is significant because empirical studies simultaneously exploring the links among digital transformation, digital leadership, organizational adaptation, and employee performance in Indonesian higher education remain scarce. Most prior studies have focused on the industrial and business sectors, paying limited attention to education, particularly private universities (Aditya et al., 2022). Yet, the education sector faces growing pressure to embrace digitalization in the post-Covid-19 era, in line with the Fourth Industrial Revolution and Society 5.0. Hence, the purpose of this study is to investigate the impact of digital transformation and digital leadership on employee performance through the mediating role of organizational adaptation at private universities in Bandung City. The study's results are expected to enrich the knowledge of digital HRM and provide practical insights for higher education leaders and managers in improving performance through digital tools.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Digital HRM Transformation on Employee Performance

Digital HRM is the technology-enabled application, support, and automation system for the management and delivery of human resources (HR) in an organization. COVID-19 Naturally, HR becomes more digital, and its transformation may be seen as an important drive to organize work more efficiently and to enable collaboration and data-driven decision-making Bondarouk & Brewster (2016) in the age of Industry 4.0 and Society 5.0. Digital HR includes AI recruitment, instant performance feedback, flexible online training, and feedback systems that are automated.

Within the world of contemporary organizations, and especially in higher education and private companies, digital HRM has demonstrated to make employees' work experiences better because the systems are more customized, transparent, and flexible. Digital HRM promotes higher levels of job satisfaction and commitment by giving employees greater access to information, training, and career development opportunities (Marler & Parry, 2016). Integrated e-HRM also provides the opportunity for the real-time analysis of employee data that can be used to inform strategic management decisions.

In addition, this digital HR transformation improves employee performance by streamlining work processes. Cloud HR, learning management systems (LMS), and mobile HR apps make it easy to work remotely, across departments, and to report efficiently. According to a study by Strohmeier (2020), companies that leverage digital technologies in their HR processes reported a 30% rise in the productivity of their employees in just two years.

Nevertheless, the potential positive effect of digital transformation on the performance of employees is also significantly shaped by organizational readiness, HR digital literacy, and the culture of workplaces that encourage change. A study by Exarchou et al. (2024) in the higher education sector found that the success of HR digitalization is significantly related to employees' active participation in the change process, continuous training on technology, and visionary digital leadership.

The evidence suggests that the digital HRM transformation is also associated with employee performance in the digital age. As companies start to roll out digital HRM comprehensively and inclusively, they are not just automating paperwork; they are also establishing a more agile, efficient, and innovative working environment. Taken together, the literature highlights a consistent pattern: digital HRM improves performance primarily through readiness, literacy, and leadership, which act as the most critical enablers of successful digitalization. While other factors such as job satisfaction or culture may play supportive roles, narrowing the framework to these three mechanisms provides a clearer and more interpretable conceptual model.

H1: Digital HRM Transformation affects Employee Performance

Digital Leadership on Employee Performance

In the age of continuous digital reforming, digital leadership has become a key enabler of organizational success, particularly in change management and employee performance. It reflects the leader's ability to use digital technology to motivate, influence, and empower teams

to achieve goals efficiently and innovatively (Sawy et al., 2016). Core attributes include agility, digital cognition, communication skills, and digital IQ.

Research confirms a positive relationship between digital leadership and employee performance. Leaders who actively adopt digital leadership foster motivation, engagement, and effective work (Zeike et al., 2019). In higher education, especially in private universities, digital leadership is crucial for transforming academic culture, enhancing technological capabilities, and accelerating the adoption of digital learning and management systems. Ehlers (2020) highlights that rectorates applying digital leadership improve staff productivity and commitment.

Moreover, digital leaders not only make decisions but also inspire change and innovation. They empower employees to creatively use technology for task completion, resulting in more efficient and accurate performance (Avolio et al., 2000). By leveraging digital performance management tools, leaders provide coaching, feedback, and systematic progress tracking, thus promoting accountability and credibility (Cortellazzo et al., 2019). Digital leadership strengthens employee productivity across corporate and higher education contexts. Effective leadership in digital transformation and innovation creates a foundation for organizational competitiveness.

H2: Digital Leadership affects Employee Performance

Digital HRM Transformation on Organizational Adaptation

Digital HRM has emerged as a key driver for organizations facing rapidly changing, technology-oriented business contexts. It refers to the use of digital technologies in HR functions to enhance efficiency, transparency, decision-making, and employee experience (Bondarouk & Brewster, 2016). Examples include digital recruitment, e-learning, performance management systems, and analytics-based decision-making. This transition strengthens organizational adaptability, particularly in flexible and innovative environments (Marler & Parry, 2016).

Digital HRM also facilitates organizational adaptation by enabling new work models, faster adoption of technologies, and stronger employee–organization relationships through interactive platforms (Dery et al., 2017). Moreover, HR analytics supports organizational sensing by identifying competency trends and training needs, which enhances resilience and responsiveness to environmental uncertainty (Strohmeier, 2020).

In higher education, especially in private universities, digital HRM accelerates modernization of governance for academic and administrative staff. This includes LMS-based training, online assessment, and competency management, which improve institutional readiness for digital transformation (Aithal & Aithal, 2016). Such practices allow universities to better address labor market demands and evolving learning models. As such, digital HRM transformation is more than a technological upgrade. It reinforces the strategic role of HR in shaping a collaborative, innovation-oriented culture and builds organizational adaptive capacity in the digital era. Through integrative and sustainable design, digital HRM becomes a foundation for long-term agility and competitiveness.

H3: Digital HRM Transformation affects Organizational Adaptation

Digital Leadership on Organizational Adaptation

Organizations face significant challenges in adapting structurally and culturally to digital disruption. In this context, digital leadership plays a critical role, not only in engaging with digital technology but also in providing strategic guidance for organizational change toward more flexible and creative technology adoption (Sawy et al., 2016).

Digital leadership is best understood as a leadership style that guides organizations through digital transformation by integrating technology use, data-driven decision-making, and the promotion of a culture of adaptability and continuous learning (Zhu et al., 2024). Leaders in this role build digital vision, communicate direction for change, and enable individuals to engage in transformation activities. Firms led by leaders with high digital skills are more responsive in addressing digital challenges and innovating new work processes (Kane et al., 2015).

A central aspect of digital leadership is its ability to foster adaptive organizational culture, encouraging collaboration, experimentation, and the acceptance of learning from failure (Zhu et al., 2024). This cultural dimension reinforces the organization's capacity to adapt, respond, and sustain digital change.

In higher education, particularly private universities, digital leadership has become a key driver of transformation in teaching, administration, and academic services. Leadership styles that prioritize innovation, flexibility, and collaboration across institutional levels significantly enhance the success of digital transformation (Niță & Guțu, 2023). Similarly, digital leaders play a strategic role in developing digital skills among staff, supporting the adoption of LMS, and facilitating technology-based assessment systems that adapt to changing student and industry needs (Chan, 2020).

These studies emphasize the strategic role of digital leadership but differ in their focus: while Sawy et al. (2016) and Kane et al. (2015) stress technological proficiency and vision-setting, Zhu et al. (2024) highlight cultural adaptability, and Niță & Guțu (2023) point to institutional-level leadership practices. This diversity of perspectives suggests that digital leadership is multidimensional, yet the literature often treats these dimensions in isolation. What remains underexplored is how digital leadership simultaneously integrates technological, cultural, and institutional aspects to build sustainable adaptive capacity in higher education. Addressing this gap, particularly within Indonesian private universities, provides the rationale for this study. Digital leadership is not simply a technical or managerial function but a necessity for developing sustainable adaptive capacity. By aligning technology and strategy, digital leaders help organizations remain flexible and competitive in the era of digitalization.

H4: Digital Leadership affects Organizational Adaptation

Organizational Adaptation on Employee Performance

Organizational adaptation reflects the capacity of an organization to respond effectively to internal and external changes in order to sustain and improve performance. In today's dynamic and digital work environment, adaptation is essential for creating conditions that support productivity and human performance (Borodako et al., 2022).

At its core, adaptation involves adjustments in structure, processes, culture, and strategy that enable organizations to cope with evolving challenges and opportunities. These changes shape not only organizational survival but also the perceptions and behaviors of employees, particularly in how they adopt new technologies and work practices, as well as in how communication is managed internally (Teece et al., 2016). When organizational systems are flexible and supportive of change, employees are more motivated, feel a stronger sense of belonging, and are more committed to the organization. In this way, adaptation positively influences the affective, cognitive, and behavioral aspects that drive performance outcomes (Odeh et al., 2023). Firms that are strategically ready to adapt—especially in the digital era—are shown to benefit from enhanced productivity and effectiveness among their staff (Su et al., 2022).

In higher education, particularly universities, adaptation is closely tied to digital transformation, technology-enhanced learning, and shifting student expectations. The ability of institutions to align with technological and labor market demands significantly affects the motivation and performance of academic and administrative staff (Du et al., 2023). These findings indicate that organizational adaptation contributes most directly to employee performance when it focuses on three key elements: strategic readiness, flexible structures, and supportive cultures. Well-managed adaptation ensures better alignment between organizational goals and individual behaviors, ultimately strengthening collective performance.

H5: Organizational Adaptation affects Employee Performance

Digital HRM Transformation on Employee Performance through Organizational Adaptation

Digital transformation in human resource management (HRM) has become a critical strategic issue as organizations face rapid technological disruption, shifting workforce demographics, and the demand for flexible, data-driven work systems. Digital HRM refers to the digitization of HR activities such as recruitment, training, performance appraisal, and talent management using technologies like AI, cloud computing, and web-based HR information systems (Marler & Parry, 2016). This transformation is intended to enhance efficiency while improving employee productivity and performance.

However, successful digital HRM transformation depends not only on technology but also on an organization's ability to structurally, culturally, and procedurally accommodate change. In

this regard, organizational adaptation acts as a critical mediator, aligning technological innovation with organizational readiness to act effectively (Teece et al., 2016). Adaptation creates a flexible and responsive environment that fosters cooperation and performance-oriented behavior among employees (Su et al., 2022). It is achieved through updating policies, organizational learning, and strengthening HR capabilities to embrace digital change (Borodako et al., 2022).

In higher education, research shows that digital HRM produces the strongest performance outcomes when institutions successfully adapt to technological change—by embedding digital work culture, strengthening communication systems, and adjusting structures to support transformation (Purwanto et al., 2023). Conversely, when adaptation is lacking, digital initiatives risk generating resistance, employee stress, and reduced productivity (Bondarouk & Brewster, 2016). These findings suggest that the relationship between digital HRM transformation and employee performance is most clearly explained through organizational adaptation as the key mediating factor. For organizations, including private universities, adopting digital HRM requires more than implementing technology; it requires adaptable structures, supportive leadership, and an innovative culture to translate digital transformation into sustainable performance gains.

H6: Digital HRM Transformation affects Employee Performance through Organizational Adaptation

Digital Leadership on Employee Performance through Organizational Adaptation

The use of digital technology has changed the way in which organizations and leaders function. Digital leadership is an approach that enables organizations to strategically leverage technology to drive growth, resolve change, and manage talent in disruptive times (Sawy et al., 2016). A digital leader not only understands technology but also carries a transformational vision, allowing the organization to adjust rapidly to its external environment (Weber et al., 2022).

In the context of higher education, particularly private universities, digital leadership plays a central role. Leaders who apply digital leadership can shape a work culture of collaboration, flexibility, and data-based decision-making (Iivari et al., 2020), which directly influences employee motivation, engagement, and performance.

However, the effect of digital leadership on performance is not direct but mediated through organizational adaptation. Organizational adaptation reflects an institution's ability to transform structures, culture, and work processes in response to technological and global shifts (Lasrado & Kassem, 2021). Digital leaders foster this adaptation by encouraging organizational learning, strengthening digital communication, and integrating technology across management practices (Cortellazzo et al., 2019).

Evidence shows that digital leadership significantly improves academic staff performance in higher education when organizations succeed in building adaptive systems such as digital training, flexible work arrangements, and empowerment in virtual settings (Suryadi et al., 2024). Without adaptation, digital leadership may face resistance and structural barriers, while successful adaptation enhances outcomes such as productivity, innovation, and job satisfaction (Alblooshi et al., 2021).

In an era of digital-age private universities, the level of achievement of leadership transformation is largely influenced by the organization's ability to manage a dynamic flow of changes—a crucial element that in turn affects the overall employees' job performance positively. Thus, in digital-era private universities, organizational adaptation emerges as the critical mechanism that enables digital leadership to positively impact employee performance.

H7: Digital Leadership affects Employee Performance through Organizational Adaptation

According to the literature review undertaken, digital transformation and digital leadership are two of the strategic dimensions that contribute to enhancing employees' performance, particularly in the case of private universities, where the environmental dynamics are changing very fast. Digital transformation allows organizations to take a full digital approach to the way they work, and digital leadership is important in providing direction and guidance during these changes. Both of these factors have an impact on employee performance by the firm's ability to serve change, known to be a significant mediating variable that many studies confirm in improving employee performance. The model is described as in Figure 1.

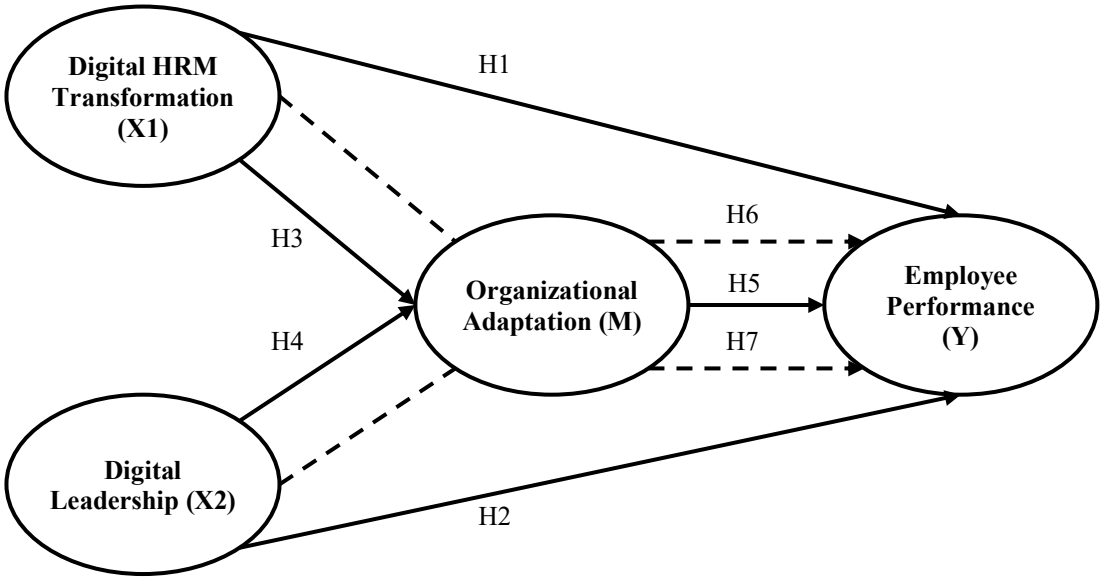

Figure 1. Research Framework

RESEARCH METHODOLOGY

This study takes a quantitative approach and investigates the effects of digital transformation in HRM and digital leadership behaviour on employee performance, with organizational adaptation as the mediating variable. The researchers chose a quantitative method because it helps test the theory in the same way the hypothesis suggested; they looked at the relationship between the independent and dependent variables using statistics and numerical data (Creswell & Creswell, 2023). We formulated questionnaires using a 5-point Likert scale, derived from established theoretical constructs for individual measures.

The analysis units of this research consist of individuals working in human resources, as well as lecturers and administrative staff at private higher education institutions in the city of Bandung that have implemented a digital-based HRM system. In relation to HRM, digital transformation includes, but is not limited to, training using Learning Management Systems (LMS) in countries like New Zealand, as well as digital attendance and time-tracking systems, online recruitment, and technology-led performance management tools (Marler & Parry, 2016). Participants were sampled according to their involvement in driving as well as being affected by digital transformation for work productivity. The unit of analysis is private higher education providers located in the Greater Bandung, which have been digitalized HRM-based systems. The LLDIKTI Wilayah IV (2023) shows that there are 370 private universities that cater to the Greater Bandung area. A distribution of these institutions is shown in Table 1.

Table 1. Distribution of Private Universities in Greater Bandung

Type of Institution	Number	Percentage
University	135	36.5%
Institute	25	6.8%
College	146	39.5%
Academy	64	17.3%
Total	370	100%

Source: Data processed by researchers (2025)

The study population consists of 2,890 individuals made up of 1,263 non-academic (administrative staff) and 1,627 academic (lecturer) staff, respectively. Slovin's formula was used to calculate the sample size with a margin of error of 5%. The sampling method consisted of stratified random sampling by which each stratum was represented proportional to its size. Table 2 illustrates the distribution of samples per population.

Table 2. Sample Distribution Based on Job Titles

Position	Population	Percentage	Sample
HR Department (HRD)	320	11.1%	39
Lecturers	1.627	56.3%	198
Educational Staff	1.263	32.6%	115
Total	2.890	100%	352

Source: Data processed by researchers (2025)

We used Structural Equation Modelling—Partial Least Squares (SEM-PLS) with SmartPLS Version 4.0 software for data analysis. We used this approach as it allows us to test relationships between latent variables simultaneously, even when having a moderate sample size (Hair et al., 2019). SEM-PLS is also useful to test mediation and moderation models and construct validity via outer loading, average variance extracted (AVE), and composite reliability. Compared with covariance-based SEM (CB-SEM), SEM-PLS was selected because the study emphasizes prediction and theory development rather than theory confirmation. Given the moderate sample size, non-normal distribution of survey data, and the model's inclusion of both mediating and formative constructs, SEM-PLS provides more robust estimation than CB-SEM (Hair et al., 2019). This rationale strengthens the methodological rigor by aligning the analytical technique with the study's objectives and data characteristics.

To ensure replicability, the SEM-PLS analysis followed a systematic sequence. First, the measurement model was assessed to evaluate indicator reliability, internal consistency, convergent validity, and discriminant validity. Second, the structural model was examined to estimate path coefficients, coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2). Finally, bootstrapping with 5,000 subsamples was conducted to test the statistical significance of the hypothesized relationships. This sequential order provided a transparent and structured procedure for replication.

The respondents were recruited through administration of a survey instrument to the participants meeting the inclusion criteria, which are (1) working in the private universities that implement at least two HRM digital systems and (2) at least 1 year working at the university. The validity and reliability of the questionnaire were established in a pilot study prior to administration in the main study.

RESULTS

Outer Model

The SEM-PLS employs the outer model test to assess the credibility and reliability of the measures in relation to the constructs. The outer model shows how effectively each indicator represents the hidden variable based on the outer loading values, with a suggested value for confirming convergent validity being above 70 (Hair et al., 2019). Additionally, we check how reliable the construct is by looking at the Composite Reliability (CR) and Average Variance Extracted (AVE) values, which should be at least 0.70 for CR and at least 0.50 for AVE. The outer model evaluation results are reported in Figure 2, Table 3, Table 4, and Table 5.

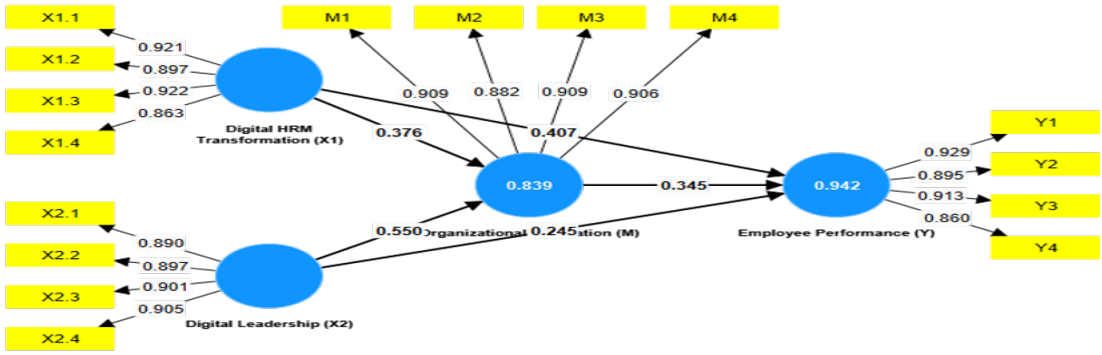

Figure 2. Model Presentation

Figure 2 shows the results from the SEM-PLS analysis, which demonstrate that the indicators are valid because their outer loading values are high. From the results, it is clear that all items for the constructs Digital HRM Transformation (X1), Digital Leadership (X2), Organizational Adaptation (M), and Employee Performance (Y) were above 0.863, which refers to the strong loading of the indicators on the measured construct. According to the criteria of Hair et al. (2021), a cut-off standard value >0.70 suggests good indicator validity. In addition, the AVE value of the constructs Organizational Adaptation (0.839) and Employee Performance (0.942) also had a large proportion of the indicator variances, which were significantly affected by these constructs.

The uniformly high loading values (>0.863) may be interpreted as evidence of strong construct reliability, yet such results also warrant caution. Very high and homogeneous outer loadings can sometimes indicate the presence of common method bias (CMB), especially in self-reported survey data collected from a single source. To address this, the study employed procedural remedies such as assuring respondent anonymity and randomizing question order, as well as statistical checks including Harman's single-factor test and CFA marker analysis, which suggested that CMB was not a serious concern. Therefore, while the high loadings strengthen the measurement model's validity, they are unlikely to be solely the result of method bias but rather reflect consistent alignment between indicators and their respective constructs. Collectively, the data have provided evidence in support of the validity and reliability of the measurement model.

Table 3. Outer Loading Measurement

Variable	Dimensions	Item Code	Loading Factor
Digital HRM Transformation (X1)	e-Recruitment System	X1.1	0.921
	Digital Performance Managmt.	X1.2	0.897
	Digital Training & Development	X1.3	0.922
	HR Information System (HRIS)	X1.4	0.863
Digital Leadership (X2)	Visionary Thinking	X2.1	0.890
	Technological Competence	X2.2	0.897
	Change Management	X2.3	0.901
	Collaborative Culture	X2.4	0.905
Organizational Adaptation (M)	Structural Adaptation	M1	0.909
	Strategic Responsiveness	M2	0.882
	Cultural Alignment	M3	0.909
	Institutional Learning	M4	0.906
Employee Performance (Y)	Task Performance	Y1	0.929
	Adaptive Performance	Y2	0.895
	Interpersonal Performance	Y3	0.913
	Innovative Behavior	Y4	0.860

Source: Research Result, 2025

Table 3 presents the outer loading results, which compare the percentage contribution of each indicator to the construct of the research variables. All loading factors are above the minimum value of 0.70 recommended by Hair et al. (2019), indicating that all indicators strongly support the idea that they are related to the main concept being studied. For the Digital HRM Transformation variable (X1), the indicator with the highest loading value is X1.3 at 0.922, while the lowest loading value, which is still significantly above 0, is X1.4 at 0.863. We found the same pattern for Digital Leadership (X2), with loading values ranging from 0.890 to 0.905. The organizational adaptation variable (M) presents very good reliability, with all indicators greater than 0.88. At the same time, employee performance (Y) has also proved to have strong indicators, in which the highest value is in Y1 (0.929) and the lowest value, which is still acceptable, is in Y4 (0.860). These findings suggest that all indicators validly measure the latent constructs.

Table 4. Construct Reliability and Validity

Constructs/Measures	Alpha	rho_a	rho_c	AVE
Digital HRM Transformation	0.923	0.925	0.945	0.812
Digital Leadership	0.920	0.921	0.943	0.806
Organizational Adaptation	0.923	0.924	0.946	0.813
Employee Performance	0.921	0.922	0.944	0.809

Source: Research Result, 2025

The reliability and validity estimates are shown in Table 4, which includes values for Cronbach's Alpha, Composite Reliability (rho_a and rho_c), and Average Variance Extracted (AVE) for the research variables. All Cronbach's Alpha values exceed 0.90, which suggests that each construct has extremely high internal reliability (Hair et al., 2019). The values of Compose Reliability (rho_c) for all constructs surpass the minimum value of 0.70, with 0.943 and 0.946, indicating excellent internal consistency of constructs. Moreover, the AVE of all constructs exceeds 0.50, which falls between 0.806 and 0.813, demonstrating that more than 80% of the variance of the indicators in each construct is explained and satisfies convergent validity (Fornell & Larcker, 1981). However, Cronbach's Alpha values above 0.90, while showing strong internal reliability, may also signal redundancy among indicators. This potential overlap suggests that some items could be measuring the same underlying aspect too closely, which may limit the discriminant power of the constructs. Acknowledging this limitation helps provide a more balanced interpretation of the measurement model. Thus, all constructs in the model have satisfied the reliability and validity requirements for SEM-PLS analysis.

Table 5. Discriminant Validity

Constructs	Digital HRM Transformation	Digital Leadership	Organizational Adaptation	Employee Performance
Digital HRM Transformation	**0.901**	0.845	0.855	0.861
Digital Leadership	0.845	**0.898**	0.870	0.880
Organizational Adaptation	0.855	0.870	**0.902**	0.875
Employee Performance	0.861	0.880	0.875	**0.900**

Source: Research Result, 2025

Table 5 demonstrates that the results of the discriminant validity test confirm that all the constructs meet the Fornell-Larcker criterion. This effect can be seen in the square roots of the average variance extracted (AVE) values on the diagonal (in the bold type), which are larger in value than the correlations between constructs in the respective rows and columns. For instance, the √AVE value of the Digital HRM Transformation (X1) is 0.901, which exceeds the construct's correlation with Digital Leadership (0.845), Organizational Adaptation (0.855) and Employee Performance (0.861). The same trend can be seen for other constructs (digital leadership (0.898), organizational adaptation (0.902), and employee performance (0.900)), whose between-construct correlations show lower values than their diagonal ones. These findings indicate that each construct is clearly different from the others, showing a high level of discriminant validity (Fornell & Larcker, 1981; Hair et al., 2019).

Inner Model

Inner model or structural model assessment seeks to assess the relationships between latent constructs and to test the impact of the effects of independent variables on the dependent variable. Three main criteria were used to evaluate the inner model: Path coefficients show how strong and in what direction the relationships are between the hidden variables; R-squared (R^2) shows how much of the change in the dependent variable is explained by the independent variables; and predictive relevance (Q^2) indicates how well the model can predict the indicators of the dependent variables. Large path coefficients, high R^2 values, and positive Q^2 values confirm the acceptable structural quality and predictive relevance of the model (Hair et al., 2019; Henseler et al., 2015). The inner model testing results are shown in Tables 6, 7, and 8.

Table 6. Path coefficients

Paths	Effect	t-value	p-value
Digital HRM Transformation -> Employee Performance	0.407	5.029	0.000
Digital Leadership -> Employee Performance	0.245	2.995	0.003
Digital HRM Transformation -> Organizational Adaptation	0.376	3.632	0.000
Digital Leadership -> Organizational Adaptation	0.550	5.606	0.000
Organizational Adaptation -> Employee Performance	0.345	6.036	0.000
Digital HRM Transformation -> Organizational Adaptation-> Employee Performance	0.130	2.885	0.004
Digital Leadership -> Organizational Adaptation -> Employee Performance	0.190	4.448	0.000
R2 to Employee Performance		0.942	
R2 to Organizational Adaptation		0.839	

Source: Research Result, 2025

The results in the table highlight the pivotal role of digital HRM and digital leadership in shaping both organizational adaptation and employee performance. Digital HRM exhibits strong and significant effects on performance outcomes ($\beta = 0.407$, $t = 5.029$, $p < 0.001$) and organizational adaptation ($\beta = 0.376$, $t = 3.632$, $p < 0.001$), while digital leadership demonstrates an even greater effect on organizational adaptation ($\beta = 0.550$, $t = 5.606$, $p < 0.001$). Moreover, organizational adaptation itself significantly contributes to employee performance ($\beta = 0.345$, $t = 6.036$, $p < 0.001$), confirming its mediating role. The high R^2 values (0.942 for employee performance and 0.839 for organizational adaptation) indicate a robust explanatory power of the model, underscoring that digital transformation strategies combined with adaptive leadership are central levers for sustaining performance in higher education institutions undergoing digital change. The result supports the model created by Hair et al. (2019), which states that calculating the total effect is the first step in testing mediation before looking at more specific indirect effects. This finding agrees with the suggestions from Hair et al. (2019) and Zhao, Lynch, & Chen (2010), who say that a mediation effect is important if the indirect effects are strong, as shown by the t-values and p-values (like those in the table above).

DISCUSSION

Results of this study suggest that digitalization of human resource management (digital HRM transformation) has a positive influence on employee performance. The study validates that the adoption of digital practices in HR activities (e.g., e-recruitment, digital performance management, e-learning, and human resource information systems (HRIS)) reflects on the enhanced employee work effectiveness. The finding is theoretically consistent with the understanding that digitalization of HR processes is not only a technology adoption but also a strategic transformation process for improved organizational effectiveness and efficiency and employee engagement. These results are consistent with those of Bondarouk & Brewster (2016) and Marler & Parry (2016), who argued that digital HRM speeds up HR services delivery, enhances employer-employee relationships, and assists performance-based decision-making.

In addition to contributing to existing research, this finding is important, not least because it shows that strategic digital HRM is not just a matter of making administrative tasks more efficient but also adds to individual performance (Jääskeläinen et al., 2016; Strohmeier, 2020). This is in line with the resource-based view of Bhandari et al. (2022), wherein digital HRM implementation is an organizational resource that can be a source of competitive advantages as a result of raising individual performances, specifically in private universities in the digital era.

Furthermore, digital leadership was found to significantly enhance employee performance. Digital leaders know how to shape the direction, lead with a vision, “practice” digital principles, master technology, and manage changes in a more proactive, holistic, and professional way. This result adds a new layer to the recent debate in the digital age on what leadership is: that indeed, leadership is the ability to foster innovation by complementing both traditional managerial skills and digital capabilities (Kane et al., 2019; Sawy et al., 2016). Rather than “indirectly verifying” earlier works, the present findings provide empirical reinforcement of prior conclusions, such as those of Wang et al. (2022) and Zeike et al. (2019), by showing how

digital leadership translates strategic intent into employee-level productivity and well-being through mechanisms like digital collaboration, technology-mediated decision-making, and continuous organizational learning. In terms of transformational leadership theory Northouse (2021), digital leadership combines the transformational capabilities with digital technology to promote substantial organizational change.

Organizational adaptation was also facilitated by digital HRM transformation. High level of interdependence between HRM and digital transformation, making organizations more flexible, more responsive, and more able to take decisions based on real-time data. This is consistent with Bondarouk & Brewster (2016), Parry & Battista (2019), and Strohmeier (2020), who argued that transformation to digital HRM drives structural and cultural change, aids innovation, and improves the performance gain and the ability of organizations to adapt. From the lens of dynamic capabilities Teece et al. (2016), digital HRM transformation is an internal resource that triggers the record of the organizational agility against changes in the external environment.

Furthermore, digital leadership was found to enhance organizational agility. Digital leaders and leadership: Digital leaders who harness technology to vision-cast, promote digital collaboration, and drive change support the organization to be more agile and flexible in the volatile business environment where uncertainty is a constant (Kane et al., 2019; Sawy et al., 2016; Wasono & Furinto, 2018). This is consistent with dynamic capabilities theory, in which leadership is a main force shaping resources to fit the challenges of the environment (North et al., 2020; Teece et al., 2016).

Organizational adaptation was indeed positively associated with enhanced employee performance. Organizations that can adapt to environmental and technological shifts will more likely generate positive, adaptable, and flexible workplace cultures that respond to employees' needs in order to increase their engagement, creativity, and working spirit (Kraimer et al., 2011; Sadgrove, 2020; Sherehiy & Karwowski, 2014). This is in line with contingency theory Toubiana et al. (2017), stating that organizational efficiency is largely determined by the level of consistency between the organization's architecture, process, and culture vis-à-vis the external environment.

As well as its direct impact, the digital HRM transformation also impacts employee performance, at least indirectly, by means of organizational adaptation. The findings indicate that digital HRM transformation has a direct effect on performance as well as through the mediating role of organizational adaptability on individual performance. This conclusion is in line with Bondarouk & Brewster (2016), Panayotopoulou et al. (2007) and is consistent with Sociotechnical Systems Theory Sahin & Gursoy (2021), which argues that the positive performance results depend on the technology systems and human systems (employees) working in harmony.

Similarly, digital leadership influences employee performance with the intermediary of organizational adjustment. Visionary, innovative, and technology-oriented leadership promotes the emergence of agile and adaptable organizations, leading in turn to higher individual productivity and effectiveness (Avolio et al., 2014; Matarazzo et al., 2021; Sawy et al., 2016). Transformational Leadership Theory (Bass & Riggio, 2020) supports these findings and points out the importance of leaders in influencing employees, fostering innovation, and re-engineering work systems within the organization for the new technological age. Within this framework, organizational adaptation acts as a critical mediator that enables digital leadership to transform strategic intent into upward individual performance.

From a managerial perspective, these findings highlight specific implications for rectors and HR directors in private universities. First, institutions should develop structured digital leadership training programs that combine technological proficiency with change management and innovation skills. Second, HR directors can implement policies that embed digital collaboration platforms (e.g., LMS, integrated HRIS) across departments to encourage cross-functional teamwork. Third, rectors should foster a culture of continuous learning by incentivizing faculty and staff participation in digital upskilling programs and aligning promotion or career development pathways with demonstrated digital competencies. Finally, governance policies should encourage participatory decision-making supported by digital tools, ensuring that digital leadership cascades from top management to operational levels. Such practices will

institutionalize digital leadership capabilities, thereby strengthening organizational adaptability and sustaining employee performance in the digital era.

CONCLUSION AND FURTHER STUDY

The study demonstrates that digital HRM transformation and digital leadership significantly enhance employee performance, with organizational adaptation serving as a vital mediator that strengthens this relationship. The findings underscore the importance of fostering an assimilative organizational climate where agile structures, supportive cultural environments, and digitally competent leadership converge to sustain performance in higher education. Grounded in sociotechnical systems theory and transformational leadership theory, the evidence affirms that addressing digital disruption requires simultaneous investment in technical and social systems. Importantly, this work advances the theoretical conversation by positioning organizational adaptation not as a passive response but as a proactive strategic resource that channels digital strategies into sustainable human capability and performance.

Nevertheless, the study is not without limitations. Its cross-sectional design restricts causal inferences, and the focus on private higher education institutions in one region limits generalizability. Future research should adopt longitudinal approaches, broaden sectoral and geographic coverage, and incorporate constructs such as digital culture, digital mindset, or technological capability as mediators or moderators. Cross-country comparative studies, as well as qualitative inquiries into lived experiences, could enrich understanding of how adaptation unfolds in practice. Despite these limitations, the study contributes theoretically by extending adaptation theory into the digital HRM–leadership nexus and practically by offering leaders actionable guidance to craft adaptive, digitally resilient universities capable of thriving in an era of disruption.

ETHICAL CONSIDERATIONS

This study was conducted in accordance with ethical research standards. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. The confidentiality and anonymity of participants were strictly maintained, and all data were used solely for academic purposes.

CONFLICT OF INTERESTS

The authors declare no conflict of interest.

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