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Fostering a Digital Culture in Indonesian Higher Education: The Impact of Digital Leadership on Lecturer Performance and Organizational Citizenship Behaviour

Anhar Januar Malik [*1], Syarief Dienan Yahya [2], Rezty Amalia Aras [3]

[1] Retail Management Study Program, Kalla Institute of Technology and Business, Indonesia

[2] Entrepreneurship Study Program, Kalla Institute of Technology and Business, Indonesia

[3] Digital Business Study Program, Kalla Institute of Technology and Business, Indonesia

Email: anharjm@kallainstitute.ac.id, dienanyahya@kallainstitute.ac.id, rezty@kallainstitute.ac.id

Correspondence Email: anharjm@kallainstitute.ac.id

ARTICLE INFO	ABSTRACT
	This study analyses how Digital Leadership affects Lecturer Performance and Organizational Citizenship Behaviour (OCB) in higher education institutions, stressing its role in supporting digital transformation. The Covid-19 pandemic has made it harder for institutions to adapt to the digital age, requiring new leadership techniques that emphasize technological integration, collaboration, and creativity. Digital leadership and job satisfaction are examined to determine how they affect professor performance and organizational engagement. The quantitative study uses an online survey to reach 341 Indonesians from various regions. The study selected experts using a purposive sample and analysed data using Smart PLS. All constructs met validity and reliability criteria for the measuring model. The study found that Digital Leadership significantly impacts Lecturer Performance and Organizational Citizenship Behaviour, with significant R² values. Digital Leadership explains 60.5% of Organizational Citizenship Behaviour and 47.7% of Lecturer Performance. Job Satisfaction mediates the relationship between Digital Leadership and these outcomes, suggesting that course lecturers are more likely to practice corporate citizenship and perform well academically. The study found that effective digital leadership techniques like transparent communication, technical training, and lecturer well-being can boost satisfaction, engagement, and performance. This study strengthens the case for digital leadership in higher education to improve education and organizational performance. To analyse the long-term effects of digital leadership and account for company culture and government regulation, future research should be longitudinal.

Keywords: Digital Leadership, Lecturer Performance, OCB, Job Satisfaction, Higher Education |

Research Article

Introduction

The challenges faced by organizations, particularly in adapting to the digital environment, are becoming increasingly complex as technology continues to advance (Zulu & Khosrowshahi, 2021). As Khin & Ho (2019) observe, organizations must confront a wide range of challenges arising from rapid technological changes and digitalization, which have only intensified in recent years. This issue is even more pressing in the context of higher education, where universities are required to undergo a transformative shift in order to keep pace with evolving digital technologies (Jameson et al., 2022). A key factor driving this transformation is the Covid-19 pandemic, which forced nearly all sectors, including higher education, to undergo a massive digital shift. According to Karimi et al. (2021) the Covid-19 pandemic reshaped the paradigm of higher education, compelling universities to quickly adapt by adopting digital platforms to continue teaching and learning processes online.

As universities undergo this transformation, they are also under immense pressure from societal shifts and the rapid advancements in digital technology in recent years. Singh et al. (2024) argue that the pressure from these changes is unprecedented and significantly alters how universities approach education. Consequently, digital transformation in leadership within higher education has become crucial to effectively navigating these challenges. This transformation, however, extends beyond the mere adoption of technology; it requires a fundamental shift in mindset, resource management, and the development of policies that are flexible and adaptive to the ever-evolving landscape.

Research has consistently highlighted the significant role of leadership in driving innovation, both in organizational settings in general (Arici & Uysal, 2022; Bougie & Sekaran, 2020; Elrehail et al., 2018; Karimi et al., 2021; Khin & Ho, 2019) and specifically within higher education (Abbu et al., 2022; Antonopoulou et al., 2021). Ehlers (2020) further underscores the importance of conducting more focused research on the development of digital leadership in higher education. Although interest in digital leadership has been growing, most existing studies are still in the conceptual phase. However, digital leadership is increasingly recognized as crucial for ensuring the continued effectiveness of higher education amid rapid technological changes (Jameson et al., 2022; Musid et al., 2022). Therefore, it is vital to conduct research that assesses the practical impact of digital leadership, particularly within the higher education sector.

Digital leadership has emerged as an increasingly prominent research area across various countries, including Indonesia (Dewi & Sjabadhymi, 2021; Chang et al., 2022; Gunawan et al., 2023), Turkey (Erhan et al., 2022), Kuwait (Alajmi, 2022), Malaysia (Hamzah et al., 2021), Arab countries (Ghamrawi & M. Tamim, 2023), India (Shah & Patki, 2020), Thailand (Hapha & Somprach, 2019), the USA (Hornor, 2021), and Greece (Nenonen & Danivska, 2021). In these countries, there is growing recognition that, to remain competitive and relevant, universities must develop robust digital leadership capabilities. However, implementing digital leadership in higher education presents unique challenges, primarily due to the complexity of these institutions. Universities are not only dealing with diverse internal stakeholders, such as faculty and students, but also managing external stakeholders, including governments, society, and industry. As Puckett et al. (2021) point out, universities are significantly lagging behind other industries in terms of digital adoption, which have more swiftly embraced technology to enhance efficiency and productivity. This gap highlights that many universities are still unprepared to fully face the challenges of digital transformation.

Popova et al. (2018) highlight that many universities are struggling to adapt to the new economic realities shaped by technological advancements and global economic pressures. This struggle underscores the importance of gaining a deeper understanding of how digital leadership can yield positive outcomes—both at the organizational level (e.g., Organizational Citizenship Behavior, OCB) and at the individual level (e.g., faculty member performance). By fostering effective digital leadership, universities can enhance the quality of education and services, cultivate an environment

that promotes collaboration, innovation, and professional development for faculty and students, and ultimately help produce competent graduates prepared to address global challenges.

As a next step, it is critical to develop empirical research that can effectively measure the impact of digital leadership in higher education, both in terms of its influence on faculty performance and on broader organizational behaviours, such as Organizational Citizenship Behaviour (OCB). This research can provide a clearer understanding of how digital leadership contributes to improving the quality of higher education in the digital era. The social exchange perspective theory (Blau, 2017) is used to capture the psychological mechanism of the effective digital leadership process that influences lecturer and community performance. Job satisfaction in this study is seen as the result of effective digital leadership behaviour. Therefore, job satisfaction is seen as a variable that mediates the influence of digital leadership on lecturer performance and OCB.

Digital leadership is effective in creating an environment that can facilitate good communication and efficient time management. This can affect job satisfaction because lecturers can feel more empowered and maximize their work. The findings of Topcuoglu et al. (2023) also explain that digital leadership has a significant influence on job satisfaction. High job satisfaction ultimately increases performance both individually (in this case lecturer performance) (Wahyudi, 2018), and positive behaviours towards the organization (for example: OCB) (Ghasemy & Elwood, 2023). Lecturers who are satisfied with digital leadership behaviour and attitudes tend to feel appreciated and motivated to improve the quality of work, commitment and involvement that can drive performance in the fields of teaching, collaboration, service and research innovation, so that job satisfaction is thought to be a mediating variable in the relationship between digital leadership and lecturer performance. Furthermore, not only performance but digital leadership through satisfied lecturers will feel motivated to make extra contributions to achieving organizational goals, this is what will give rise to positive behaviour that supports organizational performance (OCB).

Literature Review

Digital Leadership

Digital leadership is using digital technologies to transform organizations and achieve strategic goals. Westerman et al. (2011) say digital leadership drives change by integrating technology with business strategy to provide long-term benefit for enterprises. A digital leader must manage technologies, encourage innovation, and motivate people to adapt to rapid digital changes. Avolio et al. (2014) add that digital leadership includes the development of abilities needed to lead in a technology-driven world. This encompasses digital communication, collaboration, and data-driven decision-making. Digital leadership includes embracing digital transformation, leadership facilitating the digital drive, digital skills, cultivating a digital culture, digital adaptiveness and resilience, and digital competitive intelligence, according to Munsamy et al. (2023). These dimensions emphasize that digital leaders must not only manage digital tools but also lead in ways that transform organizational culture, boost employee engagement, and boost competitive advantage through efficient and effective technology use.

Lecturer Performance

Lecturer performance is influenced by various factors such as pedagogical competence, commitment, and organizational support (Sukirno, 2020). Research indicates that Indonesian EFL lecturers are perceived as effective in their teaching practices, demonstrating attitudes that positively impact student motivation and learning outcomes (Rahman et al., 2023). The relationship between competence and commitment is also crucial, with commitment acting as a mediator that enhances performance (Yunaningsih et al., 2020). As outlined by Sukirno (2020), lecturer performance can be measured through six indicators defined by the Ministry of Education and Culture of the Republic of Indonesia in Regulation No. 92/2014, which include teaching, research, publication, and community service. Lecturer performance is essential for achieving institutional goals, given the multidimensional

role of lecturers in organizational effectiveness and efficiency. Therefore, improving lecturer performance is key to enhancing educational quality and institutional reputation. Studies by Srinadi et al. (2024)) found a strong relationship between leadership behavior, organizational culture, and lecturer performance. Additionally, transformational leadership and servant leadership has been shown to positively affect lecturer performance (Abdillah et al., 2021; Phetorant et al., 2024; Sustiyatik, 2023).

Technology-integrated leadership promotes collaboration and innovation, increasing lecturers' ownership of institutional goals. Effective technology use helps lecturers access resources, cooperate with peers, and interact with students, improving teaching, research, and community involvement. These enhancements boost lecturer performance. Therefore, it is hypothesized that digital leadership behavior significantly influences lecturer performance by driving organizational transformation and optimizing the use of technological tools to achieve academic and institutional objectives.

Organizational Citizenship Behavior

Organ (1988) defined Organizational Citizenship Behavior (OCB) as voluntary actions outside of job duties. Podsakoff et al. (2000) defined OCB as discretionary, voluntary efforts by employees that are not immediately rewarded by formal procedures yet help the organization function. These behaviors improve workplace collaboration, teamwork, and morale, boosting organizational performance and sustainability (Andreopoulos et al., 2023; Histayanthi, 2024). OCB includes altruism, conscientiousness, sportsmanship, civic virtue, and civility (Organ, 1988). These dimensions help higher education institutions succeed by understanding how instructors display OCB.

OCB can also assess leadership effectiveness, according to (Amir, 2019; Podsakoff et al., 2000). Leadership affects OCB via improving work environments, superior-subordinate relationships, and employee commitment. Effective leaders encourage discretionary actions that surpass job standards, improving organisational productivity (Ndubueze & Akanni, 2015). Specific leadership behaviors affect OCB (Amir, 2019; Decoster et al., 2014; Uddin et al., 2024). Digital leadership affects Organizational Citizenship Behavior (OCB) by increasing employee trust, engagement, and belonging. Digital leaders may create a pleasant, motivating workplace by using technology for transparent communication, recognition, and cooperation. This increases discretionary behavior like aiding coworkers and showing organizational loyalty. Thus, this study hypothesizes that digital leadership behavior will positively and significantly affect OCB in higher education.

Job satisfaction

Locke (1969) defines job satisfaction as a favorable sensation about employment. Kreitner et al. (2001) define it as an employee's assessment of salary, job, career advancement, and supervisor and colleague relationships. This study uses social exchange theory to explain reciprocal relationships between people and organizations. Both sides share support, attention, or resources. Digital leadership uses technology for communication and team assistance to develop relationships and create an inclusive, technology-driven work environment that boosts job satisfaction.

Leadership affects job satisfaction through social exchange. Leadership behaviors like caring and supporting people can boost job satisfaction by encouraging reciprocity and commitment (Wang et al., 2024). Digital leadership can boost job satisfaction through positive social interchange, which boosts employee performance and OCB in response to supportive and responsive leadership. In many organizational circumstances, job satisfaction mediates the relationship between leadership styles, work environment, and employee performance. Transformational leadership affects job satisfaction and employee performance (Siyaphat et al., 2024). Job satisfaction also impacts work motivation, leadership style, work competence, and employee performance, notably among Generation Z (Dini & Chou, 2024). Thus, this study hypothesizes that job satisfaction will regulate the relationship between digital leadership, lecturer performance, and OCB.

Research Article

The psychological mechanisms by which job satisfactions mediates digital leadership and instructor performance comprise numerous essential aspects. By using technology to improve communication, assistance, and cooperation, digital leadership builds trust, empowerment, and employee engagement. These variables boost academics' job satisfactions by making them feel valued and supported. High job satisfactions motivates lecturers to perform well since satisfied employees are more likely to show commitment, productivity, and discretionary behaviors like Organizational Citizenship Behavior. Therefore, the positive work environment created by digital leadership enhances job satisfaction, which mediates its impact on lecturer performance and OCB.

Methodology

This study adopts a quantitative research approach, utilizing an online questionnaire to collect data. Respondents completed the survey independently and anonymously, with a total of 341 valid responses retained for analysis. These responses met the required criteria and were gathered using purposive sampling, a non-probability sampling technique (Cooper & Schindler, 2013). Specifically, a snowball sampling approach was initially employed, starting with a small sample that was used to identify additional respondents with similar characteristics. This approach leveraged the network of initial participants to expand the sample and achieve broader representation. Afterward, purposive sampling was applied to filter the data, ensuring that only respondents with specific experience or knowledge relevant to the research topic were included (Campbell et al., 2020).

The inclusion criteria specified a minimum of one year of experience working with leaders, ensuring that respondents had the relevant expertise for the study. To capture diverse perspectives, respondents were selected from various regions across Indonesia, including Java, Sulawesi, Kalimantan, Sumatra, and Bali. This geographic diversity aimed to provide a comprehensive understanding of the topic from multiple viewpoints.

Before completing the survey, respondents were informed about data confidentiality and assured that all collected data would be used exclusively for research purposes. Of the total respondents, the majority were female (263, or 61%), while 39% (168) were male. The most common age group was 30-39 years, accounting for 156 respondents (36.2%). Additionally, the largest proportion of respondents had between 11 and 20 years of professional experience, with 119 individuals (41.2%) falling into this category.

To assess the validity of the research instruments, both convergent validity and discriminant validity analyses were conducted. Convergent validity was evaluated through the Average Variance Extracted (AVE) and Loading Factor, while discriminant validity was assessed via Cross Loadings (Hair Jr et al., 2021). Furthermore, reliability testing was performed, with the results presented in terms of Cronbach's Alpha and Composite Reliability values (Hair Jr et al., 2021). A summary of the validity and reliability tests for the measurement model is presented in Table 1. The results of the validity and reliability tests show that all constructs have Cronbach's Alpha and Composite Reliability values above the recommended threshold of 0.70, indicating excellent internal consistency (Hair et al., 2019).

Table 1: Summary of Measurement Model

Variable	Indicator	Loading Factor	AVE	CR	Cronbach's Alpha	Discriminant Validity (Fornell-Larcker)
Digital Leadership	DL.1.1	0.824	0.621	0.972	0.971	√
	DL.1.2	0.798				

Research Article

	DL.1.3	0.833				
	DL.1.4	0.795				
	DL.1.5	0.799				
	DL.1.6	0.802				
	DL.1.7	0.752				
	DL.1.8	0.777				
	DL.1.9	0.813				
	DL.1.10	0.735				
	DL.1.11	0.814				
	DL.1.12	0.818				
	DL.1.13	0.777				
	DL.1.14	0.784				
	DL.1.15	0.775				
	DL.1.16	0.855				
	DL.1.17	0.735				
	DL.1.18	0.717				
	DL.1.19	0.814				
	DL.1.20	0.778				
	DL.1.21	0.761				
	DL.1.22	0.770				
Lecturer Performance	LP.1	0.813	0.600	0.870	0.867	√
	LP.2	0.780				
	LP.3	0.768				
	LP.4	0.780				
	LP.5	0.764				
	LP.6	0.740				
OCB	OCB.1	0.801	0.567	0.812	0.809	√
	OCB.2	0.753				
	OCB.3	0.732				
	OCB.4	0.756				
	OCB.5	0.720				
Job Satisfaction	JS.1	0.794	0.575	0.897	0.894	√
	JS.2	0.773				
	JS.3	0.737				

288

Research Article

	JS.4	0.781				
	JS.5	0.739				
	JS.6	0.717				
	JS.7	0.793				
	JS.8	0.730				

Source: Data Processed (2024)

Convergent validity was assessed through the loading factor, which indicates the extent to which indicators correlate with the measured construct. For example, the loading factors for the Digital Leadership construct, such as DL.1.1 (0.824) and DL.1.3 (0.833), indicate strong correlations with the construct, as loading factors greater than 0.70 are considered adequate. The Average Variance Extracted (AVE) for Digital Leadership is 0.621, which exceeds the recommended threshold of 0.50, demonstrating satisfactory convergent validity. The high Composite Reliability (CR) value of 0.972 and Cronbach's Alpha value of 0.971 further confirm the construct's internal consistency, suggesting that the indicators are reliable. Discriminant validity was evaluated using the Fornell-Larcker criterion, with the symbol "√" indicating that the discriminant validity is met. This implies that each construct is more strongly correlated with its own indicators than with those of other constructs.

Similarly, the constructs of Lecturer Performance and Organizational Citizenship Behaviour (OCB) exhibited similar results. For example, the loading factors for indicators such as LP.1 (0.813) and OCB.1 (0.801) demonstrate strong correlations, confirming that the instruments accurately capture the intended constructs. The AVE for Lecturer Performance is 0.600 and for OCB is 0.567, both of which exceed the 0.50 threshold, indicating good convergent validity. Furthermore, the Composite Reliability (CR) values for both constructs are satisfactory, with values of 0.870 for Lecturer Performance and 0.812 for OCB, suggesting good reliability. Overall, the results from the validity and reliability tests confirm that the constructs investigated in this study exhibit excellent measurement quality.

Data analysis was conducted using Smart PLS version 4. The Partial Least Squares (PLS) method was employed to test the relationships among latent variables, such as digital leadership, lecturer performance, organizational citizenship behaviour, and job satisfaction. This approach was selected due to its methodological suitability for explaining models that include both reflective and formative indicators (Garson, 2016). Smart PLS was chosen for its capacity to estimate models with multiple latent variables and reflective/formative indicators. In this analysis, a bootstrapping test was performed to assess the reliability of the parameter estimates, and the Goodness-of-Fit index was used to evaluate the model fit.

Result

The results of this study indicate that Digital Leadership has a significant positive impact on both Lecturer Performance and Organizational Citizenship Behaviour (OCB). The R Square analysis reveals that Digital Leadership explains 60,5% of the variability in OCB and 47.7% in Lecturer Performance (see Tabel 2). This R Square value suggests a significant contribution of digital leadership to both variables, indicating that effective leadership can enhance lecturer involvement in organizational activities as well as improve their performance. These findings are consistent with previous research that emphasizes the role of leaders in boosting individual motivation and performance within organizations (Karimi et al., 2021; Khin & Ho, 2019).

Research Article

Table 1. Summary Outcome R Square

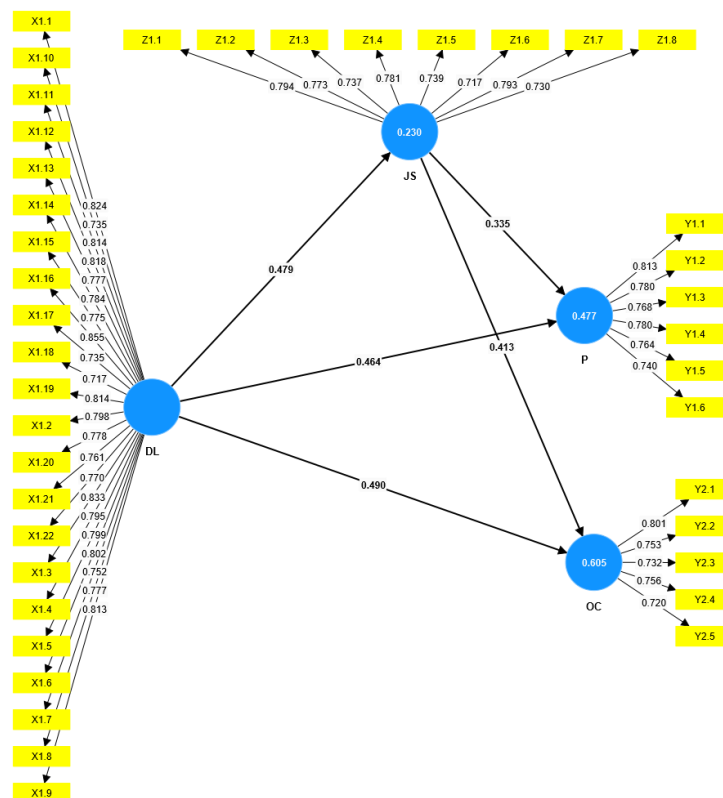| Variabel	R Square	R Square Adjusted
OCB	0,605	0,602
Lecturer Performance	0,477	0,474

Source: Data Processed (2024)

Figure 1 Outer Model Output

Hypothesis testing using Path Coefficients Bootstrapping shows that all relationships tested are significant and positive. The T Statistics values, which are well above 1.96 for each relationship (e.g., 8.015 for the relationship between Digital Leadership and Job Satisfaction), as well as P Values smaller than 0.05 (e.g., 0.000 for all relationships), confirm that the proposed hypotheses are accepted with a high level of statistical significance. Specifically, the relationships between Digital Leadership and Job Satisfaction (0.479), OCB (0.490), and Lecturer Performance (0.464) show that good leadership can improve job satisfaction, participation in organizational citizenship behaviour, and performance in the higher education setting.

Table 2. Summary Significant Test Result

Construct	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
Leadership -> Job Satisfaction	0,479	8,015	0,000

Research Article

Leadership Organizational Citizenship Behavior	**->**	0,490	12,395	0,000
Leadership Performance	**->**	0,464	9,458	0,000
Job Satisfaction Organizational Citizenship Behavior	**->**	0,413	10,186	0,000
Job Satisfaction Performance	**->**	0,335	6,146	0,000
Leadership -> Job Satisfaction -> Organizational Citizenship Behavior		0,198	7,152	0,000
Leadership -> Job Satisfaction -> Performance		0,161	5,379	0,000

Source: Data Processed (2024)

Additionally, the study finds that Job Satisfaction has a positive impact on both OCB (0.413) and Lecturer Performance (0.335), indicating that the more satisfied lecturers are with their leadership and working conditions, the more likely they are to engage in organizational citizenship behaviours and improve their performance. These findings align with Social Exchange Theory, which posits that individuals who feel valued and satisfied with organizational conditions are more likely to contribute (Blau, 2017).

Furthermore, the study found that Digital Leadership influences OCB and Lecturer Performance through Job Satisfaction. This indirect relationship, with significant coefficients (Digital Leadership -> Job Satisfaction -> OCB 0.198 and Digital Leadership -> Job Satisfaction -> Performance 0.161), shows that good leadership can increase job satisfaction, which in turn encourages lecturers to become more involved in organizational citizenship behaviour and enhance their performance. This confirms the importance of mediation factors in organizational decision-making, where satisfaction is a key element linking leadership to performance and organizational involvement. These findings are consistent with (Ehlers, 2020), who suggested that digital leadership impacts not only direct outcomes but also through the satisfaction felt by members of the organization.

Discussion

The results of this study have significant implications for university management. To enhance Lecturer Performance and Organizational Citizenship, higher education leaders should adopt leadership approaches that are responsive to digital technology needs and lecturer well-being. Implementing Digital Leadership that facilitates effective communication, provides technology training, and creates a supportive work environment can increase lecturer satisfaction, which in turn will boost their engagement in organizational activities and academic performance. Additionally, it is crucial for university leaders to recognize that lecturer satisfaction is key to fostering high Performance and Organizational Citizenship. By creating policies that improve lecturer welfare, acknowledging their contributions, and providing necessary resources and facilities, universities can increase lecturer satisfaction and involvement.

Overall, the findings of this study highlight the importance of Digital Leadership as a key factor in improving lecturer satisfaction, engagement in organizational citizenship behaviour, and academic performance. The results also confirm that job satisfaction plays a critical mediating role in the relationship between leadership and organizational performance, suggesting that university leaders should pay closer attention to factors that can enhance lecturer satisfaction and involvement at work.

Conclution and Sugesstion

This study demonstrates that Digital Leadership significantly impacts both Lecturer Performance and Organizational Citizenship Behaviour (OCB) in higher education institutions. In the digital era, university leaders must not only facilitate digital transformation but also create an environment that fosters innovation, collaboration, and continuous adaptation. The findings indicate that effective digital leadership enhances lecturer satisfaction, strengthens engagement in organizational citizenship behaviour, and boosts academic performance. Consequently, universities should prioritize developing digital leadership competencies among their leaders to navigate rapid technological changes and support lecturers in meeting future challenges. Additionally, universities must improve the work environment to increase lecturer satisfaction by implementing policies that emphasize well-being, recognition, and career development.

Furthermore, universities need to establish systems that continuously assess the impact of digital leadership to ensure that strategies remain adaptable to ongoing technological advancements and evolving faculty needs. Despite these important findings, the study's cross-sectional design limits the ability to generalize the results over time, and future research using a longitudinal approach is recommended. Moreover, external factors such as organizational culture and government policies may influence the outcomes and warrant further investigation. Overall, this research highlights the critical role of Digital Leadership in advancing the quality of higher education and shows that leaders who can adapt to technological changes create environments that enhance lecturer performance and organizational engagement. By addressing these limitations and continuing research in this area, universities can strengthen their effectiveness and competitiveness in the digital age.

Acknowledgements

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