Spirituality as a bridge towards excellence: a study on the mediating role of technology-enabled employee engagement, in the relationship between spirituality leadership and lecturer performance

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Abstract: This study aimed to investigate the powerful secrets of spiritual leadership, mindfulness, spirituality in the workplace, and technology in maximising lecturers' performance in the competitive era of higher education. A mixed quantitative and qualitative method was used and the respondents comprised 365 lecturers from all private universities in Indonesia. The results showed that spiritual leadership and mindfulness significantly correlated with workplace spirituality, technology-assisted employee engagement, and extraordinary lecturers' performance. Moreover, spirituality in the workplace and technology served as partial mediators, improving relationship between spiritual leadership and lecturers' performance. This discovery is crucial for developing the noble character of spiritual leadership and mindfulness while optimising the synergy between lecturers and technology to achieve the highest performance. It also enriched the human resource development theory by showing leading performance predictors and the mediating role of spirituality and technology in higher education. This visionary policy recommendation

integrated spirituality, technology, and performance in a holistic and multidisciplinary manner to increase the competitiveness of higher education institutions at the national and global levels.

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Suharnomo is a distinguished academic in Management at Universitas Diponegoro, Indonesia. He holds a Doctoral degree from Universitas Padjajaran and has progressed from Assistant Lecturer to Professor since 1998. His focus is human resource management, with aspects of organisational behaviour and cross-cultural leadership. He has served as Dean and held leadership positions in national economic associations. He is an experienced assessor and certified professional in management-related fields. He contributes to academic discourse and international activities with 31 Scopus-indexed publications and an H-index of 5.

Antonius Denny Firmanto is an accomplished theologian specialising in dogmatic theology. He holds a PhD from Urbaniana Pontifical University in Rome (2012). He lectures at Widya Sasana School of Philosophy and Theology in Malang. He has authored impactful articles on faith, societal sustainability, and intercultural dialogue. He is committed to advancing theological discourse and promoting historical, critical, and hermeneutical approaches to studying Asian religious traditions. His extensive experience in teaching, research, and community engagement makes him a respected voice in the field.

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1   Introduction

The rapid development of digital technology creates environmental uncertainty that challenges traditional management assumptions and encourages business model innovation to ensure organisational sustainability (Beech et al., 2012). According to

Vermeulen et al. (2018), the ambiguity of roles, processes, and organisational structures has increased significantly due to the unprecedented pace of digital technology innovation. This complexity makes it difficult for organisations to translate new technology opportunities and threats into practical decision-making. Watanabe et al. (2018) further explained that increasingly high levels of digital interconnectivity disrupt an organisation's ability to anticipate and respond to change, necessitating increased agility and intelligence. Therefore, integrating spiritual leadership principles has become crucial in a digital landscape where remote work and virtual collaboration are increasingly prevalent (Allen and Fry, 2022). Leaders who prioritise spirituality can inspire confidence, motivate teams, and create a work environment conducive to personal and professional growth (Allen and Fry, 2022). These spiritual principles improve individual well-being and contribute to the organisation's general success and long-term sustainability. Furthermore, spiritual leadership encourages deep self-reflection, motivates individuals to understand ambiguity, fosters solutions to complex problems, and promotes excellence and self-actualisation (Dent et al., 2005; Allen and Fry, 2022).

This relevance is pronounced explicitly in a digital environment characterised by rapid change and uncertainty, where adaptability and innovation are crucial for success. Leadership paradigm shifts toward control and empowerment, with leaders focusing on serving others and providing vision and meaning (Fry, 2020). In spiritual leadership, leaders empower followers by creating a vision and culture based on spiritual values such as integrity, humility, and service. This fulfils the fundamental need for meaning in the workplace (Pawar, 2023). Spirituality is a crucial workplace dimension, providing meaning, purpose, and a sense of connectedness. Peter Pruzan and Kurt Richarson showed how spirituality allows the expression of inner life through work, leading to self-unity.

Spirituality in the workplace is a strategic issue that organisational leaders should address. Recognising that employees have inner lives requiring fulfilment at the workplace is essential for increasing work engagement and performance (Marschke et al., 2011). Spirituality is a trend in human resource management because spiritually fulfilled employees are more engaged and enthusiastic about achieving optimal results (Du et al., 2022). Empirical studies confirmed that spirituality positively impacted work outcomes, including engagement, job satisfaction, organisational commitment, and employee performance (Pawar, 2023; Petchsawang and McLean, 2017). Therefore, organisational leaders and decision-makers should prioritise spirituality in the workplace.

Contemporary theologians like Siba (2019) and social experts such as Komives (2005) showed the central role of spiritual leaders in inspiring and motivating followers. Spiritual leadership helps organisations bring spiritual values to life in the work environment through examples and behaviour that reflect spirituality, hoping that followers feel spiritual needs are met. Spiritual leadership is believed to increase employee work engagement and lead to more extraordinary dedication and enthusiasm for achieving optimal performance (Du et al., 2022), by fostering spiritual fulfilment.

Studies have established a positive relationship between workplace spirituality, leadership, and key performance outcomes. However, accelerating technology disrupts traditional work and relationship patterns, necessitating an investigation of how technology interacts with organisational spirituality and performance. Several other studies showed that spiritual leadership style positively influenced individual and group work results (Mirvis, 2019). Spiritual leadership refers to leadership models and

behaviours guided by spiritual principles that focus on fulfilling inner needs (Fry and Slocum, 2008). However, Kaufman (2021), it was stated that the impact of spiritual leadership on work results in the digital era had not been maximised (Wang et al., 2022). The relationship between spiritual leadership practices and organisational effectiveness in an ambiguous and uncertain digital work environment was unclear. Fry and Slocum (2008) stated that the relationship remained vague and unclear despite increasing interest in spirituality in the workplace. This makes it difficult for leaders to integrate spirituality into leadership. The challenge lies in the diversity of beliefs and values among followers. According to Fry (2005), leaders must value diversity by navigating how to lead people with different beliefs and spiritual values without offending or alienating others. The lack of spiritual training for leaders is also a significant challenge. Fry and Slocum (2008) stated that training programs do not adequately prepare leaders for the spiritual dimensions of leadership. Spirituality training can help leaders develop self-awareness, integrity, and openness.

Rao (2020) further, it validated how much spiritual leadership style can increase organisational agility and resilience when facing disruptive digital technologies, given the high volatility in the digital era. The current study addressed the gap by formulating and testing a new mediator of technology-enabled employee engagement. It embodies the interaction between technology readiness and educators' enthusiasm, dedication, and absorption in adopting modern IT tools to improve teaching and the student experience. Increased work engagement and spirituality can be attributed to a rise in spiritual leadership (Arsintescu et al., 2022).

The teaching profession faces challenges in the digital era, specifically regarding technology integration. Educators must continue adapting teaching methods to engage students and foster technology savvy. However, adoption barriers related to effort, resources, and personal readiness also arise (Huber and Helm, 2020; König et al., 2020). Spiritual leadership can provide intrinsic motivation and a culture of addressing challenges. By incorporating modern IT tools, lecturers can also model technology readiness for the benefit of students. Therefore, the current study analysed the relationship between spiritual leadership, technology-enabled engagement, and lecturers' performance.

The higher education context was chosen because modern lecturers needed managerial competence and spirituality to guide students in discovering identity through knowledge in a digitally integrated environment. Unlike hierarchical company employees (Geyikci, 2023), lecturers operate independently and direct competency development journey as educators. By targeting the relationship between spiritual leadership, technology-enabled engagement, and teaching excellence, faculty can gain practical insights into leading faculty toward peak performance in the information age. In summary, the study aimed to investigate how technology-enabled employee engagement and spiritual leadership influenced lecturers' performance in the current digital era, considering the unique context and challenges faced by educators in modern universities.

2   Theoretical model and study hypotheses

2.1   Lecturers performance

The teaching performance of lecturers in the current digital era is determined by the ability to effectively integrate digital technology while improving the quality of learning and students' experience (Baijnath, 2020). Lecturers are required to combine various digital tools in the curriculum and teaching methods. This includes providing interactive materials that are constantly updated to facilitate online collaboration across campuses while blending face-to-face and virtual learning models (Liegle and McDonald, 2019). Adapting to the latest technology is essential for lecturers to continually evaluate and maximise the effectiveness of using digital tools to support learning (Jwayyed et al., 2021). In other words, the primary key to lecturers' teaching performance and excellence is how detailed and comprehensive various digital technologies are integrated. Lecturers need to provide a lecture experience that is interactive, contextual, and always relevant to current developments (Superi and Naqshbandi, 2022). This ability to adapt to digital tools is a benchmark for effective teaching performance amidst the rapid flow of digital globalisation (Alonderiene and Majauskaite, 2016).

2.2   Technology-enabled employee engagement

Technology is crucial in encouraging collaboration, idea exchange, information access, and relationship building, all of which increase engagement (Bond and Bedenlier, 2019; Wallace-Spurgin and Wallace-Spurgin, 2020). By using tools such as video conferencing and web-based platforms, technology helps address structural barriers, enabling meetings and interactions regardless of physical location (Jin and Bouthillier, 2013). In addition, collaboration among members can significantly increase lecturers' engagement with technology, leading to higher levels of cognitive engagement among students.

Digital platforms offer new databases and tools that increase professional engagement and organisational effectiveness. These platforms are designed to facilitate data management and assist in various investigations. Furthermore, the digital transformation of organisations includes creating personal digital profiles, exploring optimal digital models, and considering the impact of digital technologies on personnel (Galimov et al., 2024). Integrating information technology and digital platforms into innovative activities can benefit young scientists and foster collaboration between universities and companies, thereby increasing the value of products and services and organisational efficiency (Pisarenko et al., 2022). The following hypothesis was formulated based on the discussion above:

H$_1$ Technology-assisted employee engagement significantly positively affects lecturers' performance.

2.3   Workplace spirituality

Workplace spirituality includes organisational values rooted in spiritual traditions, promoting employee satisfaction through work. This framework encourages community among co-workers, personal well-being, alignment between personal and organisational values, and deep individual relationships (Krishnani, 2023). Organisations are

increasingly realising the importance of cultivating spirituality in the workplace (Srilalitha and Supriya, 2019). It leads to increased employee satisfaction, commitment, and well-being and improves organisational performance in productivity, profitability, innovation, competitiveness, customer satisfaction, and service quality (Profile and Profile, 2020). Implementing spirituality in the workplace benefits individual employees and contributes to the health and development of the organisation, making it a valuable resource for continued success (Pratoomsawat et al., 2023).

Workplace spirituality is crucial in increasing lecturers' work engagement, job satisfaction, and performance (Pratoomsawat et al., 2023). Studies have shown that integrating spirituality in the workplace makes employees feel more connected, meaningful, and satisfied with work, leading to increased performance and productivity (Hunsaker, 2018; Fernandez-Borsot, 2023). Workplace spirituality can also bridge technology and human values, showing the importance of cultivating a spiritual dimension in a technological society (Mujib et al., 2018). The following hypotheses were formulated based on the discussion above:

H_2 Spirituality in the workplace has a significant positive effect on technology-assisted work engagement in lecturers.

H_3 Spirituality in the workplace has a significant positive effect on lecturers' performance.

2.4   Leadership spirituality

Spiritual leadership facilitates organisational vision and culture built on intrinsic and empowering spiritual values such as meaning, purpose, empowerment, justice, benevolence, integrity, compassion, wisdom, connectedness, and prosperity (Mirvis, 2019). Leaders inspire and motivate followers by giving personal meaning and purpose to work through example and moral action. Spiritual leadership has two main components that stir the soul (Fry and John, 2008). First, a vision that focuses on the organisation's spiritual values. Leaders communicate concepts that combine economic objectives with spiritual ideals: second, generous love or selfless love. Spiritual leaders genuinely care about the well-being of others, thereby creating strong emotional bonds within the organisation.

Various studies have shown the benefits of spiritual leadership; for instance Hunsaker (2018) found that it positively impacted employees' morale by meeting personal spiritual needs and intrinsic motivation. This shows the crucial role of spiritual leadership practices in cultivating workplace spirituality and improving employees' well-being (Wang et al., 2021). Also, it was found that employees led by spiritual leadership were more encouraged to adopt and use technology, increasing collaboration, productivity, and engagement (Yawson, 2016). Spiritual values create a work environment that supports the positive use of technology. The following hypotheses were formulated based on the discussion above:

H_4 Spiritual leadership significantly positively affects workplace spirituality among lecturers.

H_5 Spiritual leadership significantly positively affects technology-assisted work engagement in lecturers.

H[6]   Spiritual leadership has a significant positive effect on lecturers' performance.

2.5   *Mindfulness for personal growth*

Mindfulness is a state of extraordinary awareness characterised by complete attention to the present moment without judgment of any experiences (Good et al., 2016). This definition shows two crucial components of mindfulness: full attention to the present moment and a non-judgmental acceptance of existing experiences. An updated definition states mindfulness as the ability to direct attention intentionally, at the moment, without judgment. This new definition focuses on present-moment attention and a non-judgmental attitude. However, it replaces 'awareness' with the ability to direct attention, showing mindfulness active and mentally disciplined nature (Fares, 2023).

Mindfulness comprises two main components: wholeness of attention and non-judgmental acceptance (Good et al., 2016). A mindful person is fully aware of every current stimulus, sensation, and experience without distorted interpretations. Several studies have proven the incredible benefits of mindfulness (Good et al., 2021; Rich et al., 2021). Furthermore, there is a strong correlation between mindfulness and increased spirituality in the workplace. A critical component of spirituality in the workplace is an awareness of a greater purpose in life and a sense of community, which mindfulness enables.

According to Wang et al. (2023), workers with high mindfulness tend to effectively use technology to increase productivity and collaboration while showcasing extraordinary enthusiasm and work engagement. The following hypotheses were formulated based on the discussion above:

H[7]   Mindfulness has a significant positive effect on workplace spirituality among lecturers.

H[8]   Mindfulness significantly positively affects technology-assisted work engagement in lecturers.

H[9]   Mindfulness has a significant positive effect on lecturers' performance.

2.6   *Study methods*

This study used a mixed-method design with an explanatory sequential model to address the study questions (Creswell and Clark, 2014). In the first quantitative stage, a survey was conducted among 365 lecturers in Indonesia to examine the relationship between spiritual leadership, technology-based employee engagement, and teaching performance (Fry, 2020). Furthermore, structural equation modelling (SEM) analysis using AMOS 22.00 software was carried out to test nine hypotheses, and the population comprised lecturers at private universities. Based on data from the Indonesian Central Statistics Agency in 2022, there were 2,982 PTS across 34 provinces. The two-stage cluster sampling method was used to determine the sample (Hair et al., 2017). In the first stage, eight regions, namely DKI Jakarta, North Sulawesi, West Java, Central Java, East Java, Special Region of Yogyakarta, Central Kalimantan, and South Papua, were randomly selected. In the second stage, an individual approach was carried out on 565 selected lecturers. A total of 365 respondents were identified through questionnaires, interviews, and literature review methods.

In the second qualitative stage, semi-structured interviews were conducted with 25 lecturers to strengthen the quantitative results and thematic analysis of the qualitative data. The validation of study instruments was also carried out more rigorously through extensive pilot testing, with experts examining the contents of the instrument and confirmatory factor analysis (CFA) before proceeding to SEM.

Lecturers' performance variables were adopted from Emmer and Stough (2001), Marsh and Roche (1993) and Reupert and Woodcock (2010). The spiritual leadership variable was adopted from Fry (2020) and Pawar (2023), while the self-management variable was adopted from Good et al. (2016). Technology-based employee engagement variables were adopted from Albrecht et al. (2015), Deliya and Parmar (2012) and Kumar and Pansari (2016). The variable spirituality in the workplace was adopted from Pawar (2023) and Fry (2020). Furthermore, organisational characteristics such as size, sector, and organisational culture were considered as control variables, ensuring robust support for the study model based on theoretical foundations and related literature.

3   Result of quantitative analysis

3.1   Respondent characteristics

The survey initially included 400 respondents, but 365 were considered suitable due to incomplete responses from 35 others. These respondents were lecturers from various private universities (PTS) in Indonesia, representing diverse demographic backgrounds. Table 1 presents a detailed demographic profile of the selected respondents.

Table 1   Demographic profile of respondents

Demographic profile		Frequency	%
Education level:			
a	Strata 1	21	5.75%
b	Strata 2	246	67.40%
c	Strata 3	98	26.85%
Tenure:			
a	Less than six years	12	3.29%
b	1–5 years	76	20.82%
c	6–10 years	98	26.85%
d	11–15 years	123	33.70%
e	More than 15 years	56	15.34%
Marital status:			
a	Single/have not married	57	15.62%
b	Married	296	81.10%
c	Divorced	12	3.29%
Gender:			
a	Male	167	45.75%
b	Female	198	54.25%

Table 1 Demographic profile of respondents (continued)

Demographic profile	Frequency	%
Functional:		
a Expert assistant	8	2.92%
b Lector	139	40.51%
c Head lecturer	96	18.61%
d Professor	22	1.46%

The table presents an overview of respondents based on gender, with males being the most prevalent. In terms of education level, the majority had a master's degree. Regarding years of service, the majority worked between 11 and 15 years, with lecturers being the predominant academic position.

3.2 Validity and reliability

Validity refers to the measurement of a construct. In AMOS, convergent validity is usually evaluated based on the factor loading values of the indicators that measure the construct. The recommended loading factor value is >0.5. Meanwhile, reliability refers to the consistency of construct measurement. In AMOS, reliability is tested using average variance extracted (AVE). The recommended AVE value is above 0.5, and the recommended value for composite reliability is above 0.7.

Table 2 Validity and reliability criteria for each construct

Concept	Second-order constructs	First-order constructs	Item	Loadings factors	AVE	Composite reliability
Spirituality leadership		Hope/faith	HF	0.705	0.512	0.763
		Vision	V	0.738		
		Altruistic love	AL	0.700		
		Meaning/calling	MC	0.699		
		Intrinsic motivation	IAM	0.748		
		Spiritual well-being	SW	0.702		
Mindfulness for personal growth		Awareness of the present moment	AP	0.706	0.519	0.737
		Non-judgmental acceptance	NJ	0.774		
		Self-compassion	SCO	0.703		
		Focus and concentration	FC	0.712		
		Insight and wisdom	IW	0.704		
Technology-enabled employee engagement		E-learning portal	EP	0.721	0.515	0.733
		Academic collaboration platform	AC	0.728		

Notes: *the loading factor should exceed 0.5; **the average value of the mean should surpass 0.5; ***the composite reliability should surpass 0.7.

Table 2   Validity and reliability criteria for each construct (continued)

Concept	Second-order constructs	First-order constructs	Item	Loadings factors	AVE	Composite reliability
Technology-enabled employee engagement		Online engagement survey	OE	0.722	0.515	0.733
		Digital study analytics	DR	0.698		
		Integrated hr services	IH	0.720		
Workplace spirituality		Opportunity for introspection	OI	0.762	0.517	0.769
		Support for spiritual development	SP	0.698		
		Sense of community	SC	0.713		
		Higher meaning and purpose	HM	0.706		
		Integration of spiritual values	IS	0.733		
		Spiritual role modelling	SR	0.700		
Lecture performance	Content mastery	Clear and comprehensive explanation	CC	0.725	0.560	0.681
		Depth of subject knowledge	DS	0.779		
		Relevance and updated information	RU	0.739		
	Teaching style	Engaging presentation skills	EPS	0.742	0.564	0.686
		Varied instructional techniques	VI	0.753		
		Interactive and inclusive approach	II	0.758		
	Communication	Clarity in expression	CE	0.794	0.601	0.730
		Effective use of language	EU	0.747		
		Ability to answer questions	AA	0.783		
	Classroom management	Time management skills	TM	0.755	0.582	0.708
		Creating a conducive learning environment	CC	0.739		
		Handling classroom dynamics effectively	HC	0.793		

Notes: *the loading factor should exceed 0.5; **the average value of the mean should surpass 0.5; ***the composite reliability should surpass 0.7.

This model follows a two-step process that examines AVE for each construct to assess convergent validity. According to Hair et al. (2007), external loadings should exceed 0.708, and AVE should surpass 0.50, as the variable variance needs to be approximately 50%, represented by the sum of the squares of external loadings. Based on the examination of Table 2, every item in the first and second order met the requirements proposed by AMOS 22.00 (Chokbunpiam et al., 2019). This analysis is beneficial for exploratory studies to determine underlying relationships between variables (Proenza and Longo, 2019).

4 Assessment of model and hypothesis testing

4.1 Goodness of fit

The second-order CFA lecture performance is explained in Figure 1 and Table 3. This model assessed the fit between the sample covariance matrix and the population. The diversity of the sample served as a suppressor of population diversity. The fit results of the study model produced 0.103 (>0.05) significant level, 62.942 (<67.50; $\alpha = 0.05$ and DF = 50), GFI 0.970 (>0.90) Cmin, 0.990 (>0.095), CFI 0.993 (>0.95) TLI, 0.027 (<0.08) RMSEA, and 1.259 (<2) Cmin/d.

Model 1 showed a good compatibility, making the general measurement of the lecture performance variable in the second-order models acceptable (Figure 1).

Figure 1 The second-order CFA lecture performance
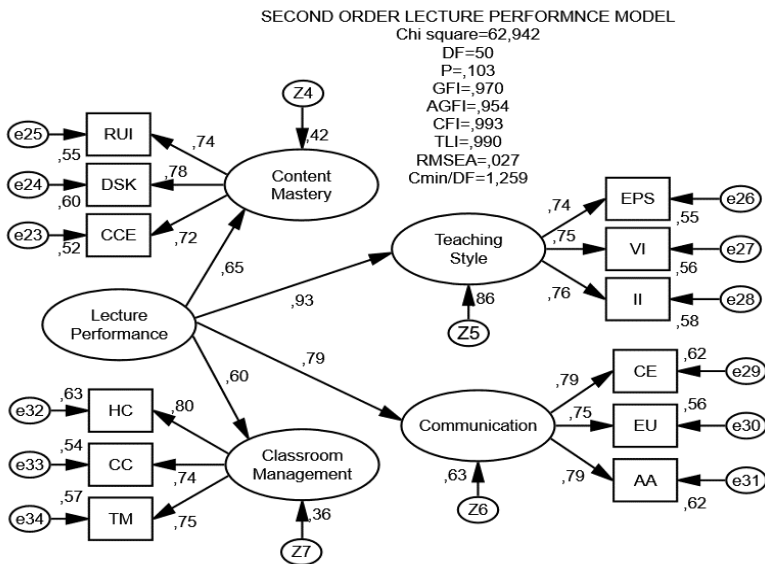
The latent measurement of each sub-construct was based on specific items to validate the leading construction and its four sub-constructs, namely teaching style (TS), communication (C), classroom management (CMa), and content mastery (CM). The model did not require modification or elimination of indicators or sub-constructs. The loading factor values of the lecture performance were 0.927 (TS), 0.794 (C), 0.601

(CMa), and 0.651 (CM), reflecting the contribution of the lecture performance to the sub-constructs. In other words, the respective dimensions significantly supported the lecture performance across these four constructs.

Table 3   Result of second-order construct, namely, lecture performance (model 1)

Path			Estimate	SE	CR	P
Lecture performance	→	Teaching style (TS)	0.927			
	→	Communication (C)	0.794	0.098	9.395	***
	→	Classroom management (CMA)	0.601	0.071	7.995	***
	→	Content mastery (CM)	0.651	0.091	7.768	***

The complete structural equation model with AMOS 22.00 is presented in Figure 1 and Figure 2, producing a statistically significant chi-squared result (χ^2 = 553.689 < 585.72; α = 0.05, and DF = 531) with a p-value of 0.104 > 0.05. The chi-squared ratio for the measurement model was within the acceptable range, with a maximum of two and a pdf of 1.079 (Marsh and Hovecar, 1985). The root mean square error of approximation (RMSEA) of 0.015 showed a good model fit, consistent with the criterion suggested by Hu and Bentler (1999) of less than 0.08. According to Kline (2023), Trucker-Lewis Index (TLI) = 0.991, comparative match index (CFI) = 0.992, adjusted GFI (AGFI) = 0.904, and goodness-of-fit index (GFI) = 0.917 further supported the satisfactory fit of the measurement model with data (Table 3).

**Table 4**   Structural model path coefficient (model 2)

Path			Standardised path estimate	CR	P	Result
Technology-enabled employee engagement	→	Lecture performance	0.243	3.514	***	Accepted
Workplace spirituality	→	Technology-enabled employee engagement	0.220	3.590	***	Accepted
Workplace spirituality	→	Lecture performance	0.367	5.636	***	Accepted
Leadership spirituality	→	Workplace spirituality	0.267	4.241	***	Accepted
Leadership spirituality	→	Technology-enabled employee engagement	0.295	4.739	***	Accepted
Leadership spirituality	→	Lecture performance	0.193	3.176	0.001	Accepted
Mindfulness	→	Workplace spirituality	0.199	3.214	0.001	Accepted
Mindfulness	→	Technology-enabled employee engagement	0.272	4.475	***	Accepted
Mindfulness	→	Lecture performance	0.152	2.571	0.010	Accepted

4.2 Hypothesis testing

A critical value (CR) for hypothesis testing with AMOS 22.00 was determined. In an ordinary least squares (OLS) regression, a CR corresponds to the t-value, while the p-value shows the level of significance probability (Kline, 2023). The impact of technology-enabled employee engagement on lecturers' performance was found to be significant ($\beta9 = 0.243$), with a CR of 3.514 (>1.96) and a significance probability of ***. This showed that the significance level was smaller than 0.01, as presented in Figure 2 and Table 2.

Workplace spirituality affected technology-enabled employee engagement ($\beta3 = 0.220$), with a significance probability of ***, showing significance at the default level of $0.01 < 0.05$ and a CR of $3.590 > 1.96$. The significant effect of mindfulness on workplace spirituality ($\beta1 = 0.199$) was shown by a CR of $3.124 > 1.96$ and a significance probability of 0.01. Mindfulness also had an impact on technology-enabled employee engagement ($\beta5 = 0.272$), with a significance probability of ***, showing significance at the default level (<0.05) and a CR of $4.475 > 1.96$. Workplace spirituality impacted lecture performance ($\beta7 = 0.367$), with a significance probability of ***, showing significance at the default level of $0.01 < 0.05$ and a CR of $5.63 > 1.96$.

Figure 2 Full structural equation model
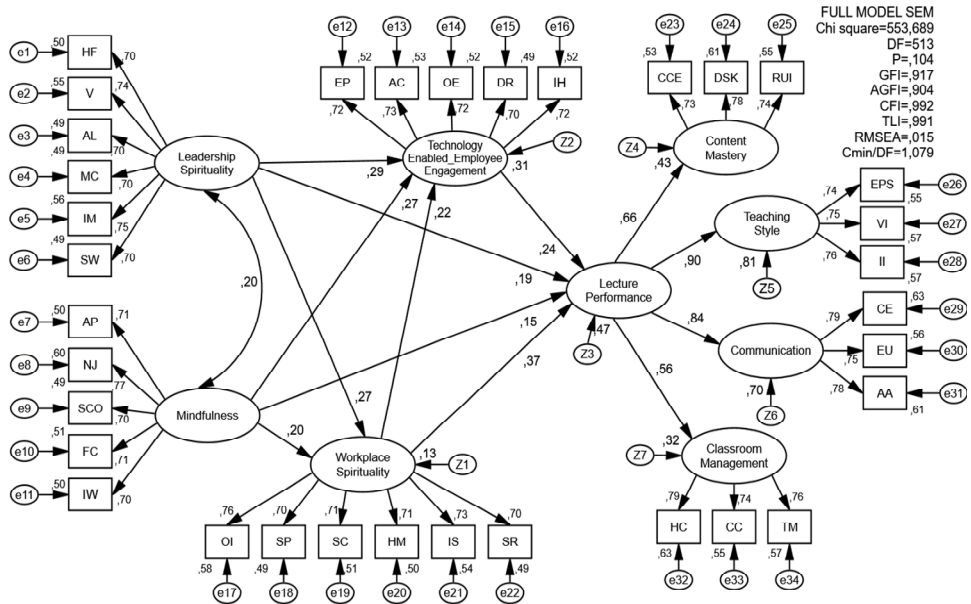
Leadership spirituality impacted technology-enabled employee engagement ($\beta4 = 0.295$), with a significance probability of ***, a CR of $4.739 > 1.96$, showing significance at the default level of $0.01 < 0.5$. It also impacted workplace spirituality ($\beta2 = 0.267$), with a CR of $4.241 > 1.96$ and a significance probability of ***, showing significance at the default level of $0.01 < 0.5$. Mindfulness impacted lecture performance ($\beta8 = 0.152$), showing significance at the default level of $0.01 < 05$ and a CR of $2.571 > 196$. Leadership spirituality impacted lecture performance ($\beta6 = 0.193$), with a significance

probability of 0.001 and a CR of 3.176 > 1.96, showing significance at the default level of <0.5.

4.3   Testing for mediation effect

The mediation of workplace spirituality and technology-enabled employee engagement variables in the influence of leadership spirituality on lecture performance was feasible based on the results of path analysis. Firstly, the path coefficient for the indirect effect of leadership spirituality on lecture performance through workplace spirituality (0.267 × 0.367 = 0.098) and technology-enabled employee engagement (0.295 × 0.243 = 0.072) was significant. The total indirect effect was 0.098 + 0.072 = 0.170. The results showed that the indirect impact was statistically significant. Secondly, the indirect influence coefficient of 0.170 was smaller than the direct influence coefficient of 0.193. This showed that workplace spirituality and technology-enabled employee engagement partially mediated the influence of leadership spirituality on lecture performance. Thirdly, the total effect of leadership spirituality on lecture performance (0.193 direct result + 0.170 indirect impact = 0.363) was more significant than the immediate influence value of 0.193. Therefore, the study model improved by including mediation through these two variables. The mediation met statistical requirements and increased the general predictive ability of the model, showing its feasibility.

5   Result of qualitative analysis

5.1   Lecture performance

The results of interviews with lecturers responding to questions through discussions are as follows:

> "Lecture performance is determined by mastery of the material, teaching, and communication skills, and the ability to manage class effectively. Currently, lecturers' performance is considered quite good, but there are still opportunities for improvement, specifically in applying interactive teaching methods. Several influencing factors include teaching experience, adaptability, and lecturers' workload."

Based on responses, the lecturers' performance is currently quite reasonable. Still, there is room for improvement through comprehensive evaluation, regular training, increased feedback, and providing a database of teaching materials to address various challenges. The continuous growth of capabilities can improve the quality of lecturers' performance.

5.2   Technology-enabled employee engagement

The results of interviews with sources are as follows:

> "The use of technology can significantly increase lecturers' engagement. Technology can facilitate collaboration, open access to the latest information, and encourage innovation in teaching methods. Although facing various infrastructure challenges and user resistance, several institutions have used digital learning systems, online discussion forums, and study databases to increase lecturers' productivity."

Based on the responses regarding using technology to increase lecturers' engagement, technology can facilitate collaboration, open access to information, encourage teaching innovation, and positively impact productivity and job satisfaction. However, the use of technology still faces the challenge of minimal infrastructure and lecturers' competence. Future recommendations include ongoing technology training and increasing infrastructure support, ensuring that technology can be used optimally for administrative automation and analysing lecturers' performance data. This can significantly improve lecturers' performance in the future (Najjar and Ajjaka, 2023).

5.3 Workplace spirituality

The results of interviews regarding workplace spirituality are as follows:

> "The interviewees considered workplace spirituality in higher education institutions essential for increasing the meaning of work, value alignment, and sense of community. Several supporting factors include the openness of the academic environment and lecturers' autonomy. However, challenges such as bureaucratic burdens and limited resources persist, and institutional efforts to facilitate workplace spirituality are limited."

The responses regarding workplace spirituality necessitate improving the meaning of work, value alignment, and a sense of community to boost motivation and job satisfaction despite facing several implementation challenges. It is recommended that the concept be promoted and that workplace spirituality within institutions is facilitated through socialising the benefits, regular discussions, and creating an environment supportive of the holistic professional growth of lecturers. This can further develop the core values of workplace spirituality.

5.4 Leadership spirituality

The results of interviews regarding leadership spirituality are as follows:

> "Interviewees state that leadership prioritizes spiritual values such as integrity, wisdom, and compassion and empowers followers to actualize their potential. This leadership style is relevant and essential in higher education institutions, considering that the vision, mission, and academic culture correspond with holistic human development."

> "The main challenge of spiritual leadership is the lack of clarity in the concept of spirituality, making its integration difficult. The diversity of followers' beliefs and values also challenges how to lead inclusively. Despite the need for leaders to develop self-awareness, integrity, and openness, there is a lack of spiritual training for leaders. This training prepares leaders to address the spiritual dimension of leading."

The responses regarding the concept of leadership spirituality show its relevance and importance in higher education institutions, considering the vision, mission, and academic culture in line with holistic human development. While implementation challenges persist, the positive impact on lecturers' engagement and satisfaction has been recognised. This concept can be implemented through mindset transformation supported by training on spiritual values and regular evaluation of spiritual leadership styles using the 360-degree method.

5.5   Mindfulness for personal growth

The results of interviews with sources are as follows:

> "According to several lecturers, mindfulness is a state of total awareness in the present moment, fostering calmness and improved concentration. Many faculty members have implemented this concept, experiencing reduced stress levels and improved quality of life. Mindfulness is essential for ongoing personal and professional development among faculty, enabling introspection and adaptive emotional regulation."

Incorporating mindfulness into daily routines can improve concentration, productivity, and stress management. However, significant challenges hinder the adoption of mindfulness practices, primarily due to the focus on short-term productivity and a lack of intrinsic motivation among lecturers. To address these challenges, institutions should provide regular mindfulness training and education, while lecturers must commit to practising mindfulness consistently, even for a few minutes daily. This commitment can facilitate the positive impact of mindfulness on personal growth and general quality of life.

6   Discussion

From an educational HR perspective, this study showed that mindfulness and leadership spirituality positively influenced workplace spirituality, technology-enabled employee engagement, and lecturers' performance. It also showed the importance of cultivating positive character in leaders and lecturers. The result was in line with Linder et al. (2022), stating that long-term mindfulness training for educators could increase psychological capital, work well-being, and lecturer retention, subsequently boosting work engagement.

> "Several lecturers experienced positive impacts, such as increased engagement and satisfaction, feeling cared for, and being listened to. However, implementing a spiritual leadership style has challenges, including the prevailing quantitative and materialistic measurement paradigm and the necessity to shift the mindset of leaders and lecturers. These challenges include providing training on spiritual values and assessing the effectiveness of spiritual leadership styles through regular 360-degree evaluation methods."

Educational human resource development policies should prioritise increasing self-awareness and spiritual meaning through mindfulness and spiritual leadership training (Ulluwishewa et al., 2023). Mindful, spiritual leaders and lecturers tend to show greater resilience in facing challenges, leading to increased engagement and productivity (Linder et al., 2022; Wang et al., 2023). High levels of leader mindfulness and spirituality also correlate with stronger lecturers' efficacy and organisational commitment (Wang et al., 2023). Therefore, character training should be integral to developing future educational human resources.

By incorporating mindfulness into daily routines, lecturers can experience tangible benefits, such as improved concentration, focus, creativity, productivity, and teaching standards. Institutions can support this integration by organising regular training sessions and providing access to relevant resources. However, the main challenges lie in the short-term focus on direct productivity and internal encouragement of lecturers. To address these challenges, lecturers are recommended to engage in mindfulness exercises

consistently, even for a short duration of 5–10 minutes daily, while expanding knowledge about the benefits and techniques of mindfulness. This commitment will undoubtedly contribute to improving personal and professional lives (Geyikci, 2023).

From the perspective of technology experts and strategic management (Tarafdar et al., 2019), technology-enabled employee engagement is critical to empowering rather than replacing lecturers' roles. A two-year longitudinal study by Vakeel et al. (2023) and Najjar and Ajjaka (2023) showed that optimising edtech through the active engagement of lecturers in its design and implementation can increase perceived techno-pedagogical efficacy, work engagement, and students' learning outcomes.

> "The resultant positive impacts include increased lecturers' motivation and job satisfaction. Therefore, leaders, lecturers, and administrative staff are recommended to internalize these values concurrently. Suggestions include promoting the benefits of workplace spirituality, providing discussion space to share inspiration, and creating a supportive environment for all lecturers' professional growth and self-actualization. Through these efforts, the core values of workplace spirituality can become increasingly entrenched."

Optimising lecturers' engagement with technology necessitates user-friendly system design and regular digital skills training (Kumar and Selvaraj, 2022). In line with Tarafdar et al. (2019) and Delaney and Royal (2017) optimising edtech through the active engagement of lecturers as design partners and co-creators could increase technology self-efficacy, skill development, and technology-enabled productivity. Lecturers' engagement is crucial to ensure that the functionality and appearance of implemented technology correlate with teaching requirements and preferences.

> "Positive impacts have been observed in terms of satisfaction and lecturer retention. In the future, optimizing the use of technology through continuous training and infrastructure support can optimize lecturers' capabilities. Automating administrative processes and analysing lecturers' performance data further encourage productivity and performance achievements. Therefore, the role of technology in addressing various challenges in lecturers' resource management becomes increasingly crucial."

According to Howard et al. (2022), engaging lecturers in designing, testing, and evaluating learning technology can significantly increase perceived technology competence, acceptance, and technology integration behaviour in the long-term. This increase in behavioural outcomes facilitates work engagement, job satisfaction, and student learning outcomes (Howard et al., 2022). Therefore, optimising edtech in higher education requires a technology-enabled employee engagement strategy through lecturers' engagement at every implementation stage (Delaney and Royal, 2017; Tarafdar et al., 2019). This is crucial to ensure technology empowers and increases lecturers' productivity, not vice versa.

7 Conclusions

In conclusion, this study showed mindfulness and spiritual leadership's positive and significant impact on workplace spirituality and technology-enabled employee engagement, as validated by path analysis. Workplace spirituality and technology-supported employee engagement partially mediated the impact of spiritual leadership on lecturers' teaching performance. Furthermore, when mediation was

considered, the study model improved at explaining lecturer performance variations. This showed the importance of optimising the factors mediating the relationship between spiritual leadership and performance.

From a qualitative perspective, current teaching performance was generally satisfactory but offered room for improvement through comprehensive evaluation, regular training, increased feedback, and provision of a database of teaching materials. Technology had significant potential to increase lecturers' engagement, although it faced challenges with infrastructure and user resistance.

Despite several implementation challenges, workplace spirituality was essential for increasing the meaning of work, value alignment, and a sense of community. Spiritual leadership was considered relevant and essential for adoption in higher education institutions, considering that the vision, mission, and academic culture corresponded with holistic human development. While mindfulness could improve concentration, productivity, and effective stress management among lecturers, challenges persisted due to the prevalent focus on short-term productivity and a lack of intrinsic motivation, hindering its implementation.

8   Theoretical and managerial implication

This study provided valuable insights into the roles of spirituality and mindfulness in organisational contexts. This corresponded with theories like Maslow's theory of human motivation and workplace spirituality theory, showing the importance of fulfilling the need for self-actualisation and meaning to achieve optimal performance. Furthermore, empirical evidence supports that spiritual leadership, workplace spirituality, and mindfulness are essential in increasing work engagement and lecturers' performance in higher education environments.

The results showed the importance of integrating spirituality and mindfulness into human resource development in an academic environment. Higher education institutions could develop training programs and initiatives to encourage spiritual leadership, create work environments that support spirituality, and facilitate mindfulness practices among faculty. These efforts could increase lecturers' work engagement, motivation, and lecturers performance, positively impacting the quality of education and students' learning experiences.

9   Limitations and recommendations for future study

This study had several limitations regarding sample coverage and data collection methods. Firstly, the sample was confined to lecturers at private universities in Indonesia. While the sample size was substantial (365 participants), the homogeneity of the respondents' backgrounds could restrict the generalisability of the results to other higher education contexts, such as state universities or other countries with different cultures and education systems. Secondly, the data collection method relied solely on surveys and semi-structured interviews. While interviews offered in-depth qualitative insights, the number of participants (25 individuals) was relatively small. In addition, survey methods had limitations in exploring respondents' subjective experiences and in-depth perceptions.

Another limitation originated from the cross-sectional design used. Data were collected at a specific time, thereby failing to capture dynamic changes in lecturers' behaviour, perceptions, and performance in the long-term after implementing human resources development initiatives, such as spiritual leadership or mindfulness training. Longitudinal studies were essential to understand the long-term effects of such interventions. Therefore, to address these limitations, future studies could expand the sample coverage to include state universities and other countries, use more in-depth qualitative methods like ethnographic or phenomenological studies, and adopt a longitudinal design to track changes in lecturers' behaviour and perceptions over time.

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