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The Moderating Role of Digital Transformation on the Influence of Workplace Spirituality and Sustainable Leadership on School Organizational Performance

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ABSTRACT

Educational institutions increasingly face pressure to improve organizational performance amid changing stakeholder expectations and rapid digitalization. This study examines the moderating role of digital transformation in the relationships between workplace spirituality, sustainable leadership, and organizational performance. Using Partial Least Squares–Structural Equation Modeling (PLS-SEM), data were collected from school leaders and unit heads at educational institutions in Indonesia. The results indicate that workplace spirituality has a significant positive effect on organizational performance ($\beta = 0.842$; $p < 0.001$), while sustainable leadership does not show a significant direct influence ($\beta = -0.225$; $p > 0.05$). Digital transformation also has a positive direct effect on organizational performance ($\beta = 0.288$; $p < 0.05$), but does not moderate the relationships between workplace spirituality or sustainable leadership and organizational performance. These findings indicate that school performance is primarily shaped by value-based and relational factors, with digital transformation contributing independently as a supportive capability. Practically, schools should strengthen human-centered values while aligning digital initiatives with institutional practices. Theoretically, digital transformation operates as a complementary capability rather than altering the influence of leadership or workplace spirituality.

Keywords: Digital Transformation; Education; Organizational Performance; Sustainable Leadership; Workplace Spirituality

INTRODUCTION

Educational institutions in emerging economies are experiencing intensified pressure to enhance organizational performance as they confront simultaneous demands for accountability, quality improvement, and technological adaptation. In Indonesia, government-driven reforms have accelerated the adoption of digital tools and performance measurement systems in schools; however, the outcomes remain unequal and often constrained by cultural, structural, and leadership challenges that technology alone cannot resolve. Although digital initiatives continue to expand, organizational performance is still shaped by human-centered factors such as values, leadership behavior, and collective meaning-making, suggesting that performance improvement requires a multidimensional approach rather than isolated technical interventions. Acknowledge this complexity, yet current knowledge remains fragmented due to the tendency to examine individual predictors in isolation without considering how they interact in educational organizations operating under resource limitations and structural constraints (Amran et al., 2014).

Workplace spirituality is an emerging concept that emphasizes meaning, purpose, community, and connectedness in the workplace. In educational organizations, spirituality in work practices helps teachers, administrators, and staff connect their personal values with institutional missions. It encourages intrinsic motivation, emotional well-being, and collective harmony, factors that are critical for achieving long-term performance. Suggests about organizations that embrace workplace spirituality tend to experience higher employee engagement, reduced turnover, and improved service outcomes. However, limited empirical studies have explored how spirituality affects organizational performance specifically within schools in Indonesia, where cultural and spiritual dimensions strongly influence institutional behavior (Pawar, 2024).

Sustainable leadership, on the other hand, reflects leadership behavior that promotes balance between short-term results and long-term development. Sustainable leaders focus on developing people, maintaining institutional resilience, and preserving resources for future generations (Gotsis & Grimani, 2021). In educational contexts, sustainable leadership involves visionary direction, ethical guidance, and empowerment of teachers and staff. It ensures continuity of performance even amid challenges such as digital disruption or shifting educational standards. However, the direct impact of sustainable leadership on school organizational performance remains mixed. Suggest that sustainability-driven leadership only produces indirect effects mediated through organizational culture and employee engagement (Pettersson, 2021).

Amid the growing influence of digitalization, digital transformation has emerged as a dominant strategic force in shaping institutional performance. Digital transformation encompasses the adoption of technologies such as data-driven management systems, e-learning platforms, and automation tools to improve organizational efficiency (Hess et al., 2020). For schools, digital transformation enables more flexible learning environments, better data management, and improved stakeholder communication. However, digital transformation also creates tension with traditional human-centric values such as collaboration, compassion, and personal meaning. While technology accelerates performance metrics, it may also reduce interpersonal connections or erode the shared sense of purpose that defines a spiritually grounded workplace.

Given these dynamics, the intersection of workplace spirituality, sustainable leadership, and digital transformation becomes crucial in understanding modern organizational performance within educational settings. The roles of spirituality, leadership, and technology, few have analyzed how these three variables interact simultaneously (Hartl

& Hess, 2017). Specifically, it remains unclear whether digital transformation strengthens (moderates) or weakens the positive effects of workplace spirituality and sustainable leadership on school organizational performance. In other words, does digitalization serve as a bridge that enhances human values through efficiency, or does it act as a barrier that dilutes them? Addressing this gap is essential for designing leadership strategies that align technological progress with human development in educational institutions.

This research aims to analyze (1) the influence of workplace spirituality and sustainable leadership on school organizational performance, (2) the direct effect of digital transformation on organizational performance, and (3) the moderating role of digital transformation on the relationship between workplace spirituality and sustainable leadership on organizational performance. The study adopts a quantitative approach using Partial Least Squares–Structural Equation Modeling (PLS-SEM) to test the hypothesized relationships. The research was conducted in several Indonesian schools involving principals and unit leaders as respondents.

The contribution of this study is threefold. First, it extends theoretical understanding by integrating spirituality, sustainability, and digitalization perspectives into one comprehensive framework of school performance. Second, it offers practical insights for school leaders seeking to manage digital change without compromising human and ethical values. Third, it provides empirical evidence from Indonesia, contributing to the limited body of literature on leadership and spirituality in developing-country educational contexts. Ultimately, this research underscores that the pursuit of digital excellence in education must remain grounded in purpose, empathy, and sustainability to achieve lasting organizational success.

LITERATURE REVIEW

Workplace Spirituality

Workplace spirituality refers to the sense of meaning, connectedness, and value alignment that employees experience within their work context, fostering engagement, purpose, and collective well-being. Workplace spirituality plays a strategic role in enhancing resilience, intrinsic motivation, and organizational citizenship behaviors, particularly in service-oriented and educational settings (Lacy et al., 2020)

In the educational context, spirituality becomes even more crucial because schools operate as moral and social institutions. Teachers and administrators are not merely performers of technical duties but are also mentors, role models, and community builders. A spiritually enriched work environment enables educators to cultivate emotional resilience, empathy, and ethical behavior, all of which contribute to sustainable school performance. Workplace spirituality improves job satisfaction, organizational citizenship behavior, and overall effectiveness (Pettersson, 2021).

Sustainable leadership is typically measured through three dimensions: meaningful work, sense of community, and alignment with organizational values. Meaningful work refers to the perception that one's job contributes to a larger purpose. A sense of community emphasizes interpersonal trust and belonging. Alignment reflects how individual goals resonate with organizational missions. These dimensions collectively foster a sense of wholeness, reducing burnout and enhancing performance even under stressful conditions.

Sustainable Leadership

Sustainable leadership emphasizes leadership behaviors that balance short-term performance with long-term organizational sustainability, focusing on ethical conduct, developmental capacity, social responsibility, and stakeholder well-being (Apsari et al., 2024). Sustainable leadership fosters adaptive capability, innovation, and sustainable organizational change, yet the magnitude of its direct effect on performance varies depending on contextual variables such as culture, resource availability, and digital readiness (Saunila et al., 2019).

Sustainable leadership has emerged as a response to the volatility and uncertainty of modern organizations. Defined sustainable leadership as leadership that preserves and develops human and material resources, promotes social justice, and ensures institutional continuity. Sustainable leaders are those who invest in people, build collaborative networks, and maintain long-term perspectives rather than short-term achievements.

In educational institutions, sustainable leadership translates into creating cultures of learning, innovation, and accountability. Principals who practice sustainable leadership encourage shared decision-making, empower teachers, and integrate ethical considerations into strategic planning. As a result, schools become more adaptive and resilient in facing environmental and technological changes.

Empirical evidence suggests that sustainable leadership positively affects organizational commitment, trust, and stakeholder satisfaction (How & Ishak, 2021). However, its direct impact on organizational performance is often moderated by other variables, such as organizational culture or transformational leadership (Eduzor, 2024). This indicates that sustainability-oriented leadership may require supportive contexts, such as spirituality or digital systems, to fully manifest its potential outcomes.

Digital Transformation

Digital transformation refers to the integration of digital technologies that fundamentally reshape organizational processes, structures, and stakeholder relationships to create new forms of value (Yiming & Manansala, 2024). In the education sector, digital transformation includes digital platforms for learning, data-driven administrative systems, and communication technologies that facilitate coordination and performance monitoring. Digital transformation improves efficiency, transparency, and decision-making, but its impact on performance depends on infrastructure, digital literacy, and organizational culture. In developing-country contexts, such as Indonesia, digital implementation has accelerated in response to post-pandemic recovery, yet disparities in readiness, resources, and policy alignment remain prevalent (Hess et al., 2020).

Digital transformation refers to the strategic adoption of digital technologies to improve organizational processes, business models, and stakeholder experiences (Hess et al., 2020). In education, digital transformation encompasses innovations such as e-learning platforms, digital administration, big data analytics, and cloud-based management systems. These tools enable more efficient resource allocation, real-time decision-making, and enhanced communication among stakeholders (Bai et al., 2023).

However, digital transformation is not merely a technological upgrade; it also represents a deep cultural shift. Implementing digital transformation requires new mindsets, leadership competencies, and organizational learning mechanisms (Vial, 2021). Schools often face challenges related to digital literacy gaps, resistance to change, and limited infrastructure. Therefore, the success of digital transformation depends not only on

technological readiness but also on the human and cultural aspects that support digital adoption.

School Organizational Performance

Organizational performance in educational institutions is a multidimensional construct encompassing academic quality, stakeholder satisfaction, operational efficiency, adaptability, and long-term sustainability (Hristov & Chirico, 2019). In school contexts, performance extends beyond financial outcomes to include qualitative dimensions such as learning effectiveness, collaborative practices, ethical conduct, and social impact (Sutanto et al., 2022). These elements reflect the broader mission of educational organizations, which prioritizes value creation for students and society alongside operational effectiveness.

Prior studies indicate that organizational performance is shaped by the interaction of leadership, organizational culture, and technological capability (Amran et al., 2014). Sustainable leadership provides strategic direction and continuity, while workplace spirituality fosters shared purpose, integrity, and commitment among educators and staff. Digital transformation, in turn, equips schools with the systems and tools needed to support efficient processes, informed decision-making, and innovation. Accordingly, organizational performance in educational settings emerges from the integration of strategic leadership, human-centered values, and technology-enabled practices, particularly as schools navigate ongoing institutional and technological change.

Theoretical Model and Hypotheses Development

Sustainable Leadership and Organizational Performance

Sustainable leadership emphasizes long-term organizational sustainability, ethical decision-making, and stakeholder well-being, which align closely with principles of effective leadership. From a theoretical lens, sustainable leadership enhances organizational performance by building long-term capability, fostering commitment, and encouraging collaborative learning. Studies show that sustainable leadership supports innovation, organizational resilience, and performance through the development of human capital and empowerment mechanisms (Avery & Bergsteiner, 2011; Hargreaves & Fink, 2004). Evidence from recent research confirms that sustainable leadership positively influences performance, especially in contexts that demand adaptability, organizational learning, and stakeholder trust (Hughes et al., 2018; Lacy et al., 2020). Consequently, sustainable leadership is expected to contribute to organizational performance by strengthening leadership capacity and fostering sustainable organizational practices.

H1: Sustainable leadership positively affects organizational performance.

Workplace Spirituality and Organizational Performance

Workplace spirituality emphasizes meaningful work, interconnectedness, and value congruence, which foster positive attitudes and behaviors that contribute to organizational outcomes. Drawing on the Resource-Based View (RBV), workplace spirituality represents an intangible resource that enhances employees' intrinsic motivation and collaborative orientation, which in turn increases performance capacity. Empirical studies have shown that workplace spirituality positively affects organizational commitment, service quality, and innovation (Milliman et al., 2003; Pawar, 2024). Recent research in education, healthcare, and service industries confirms that workplace spirituality is associated with higher job satisfaction, reduced turnover intention, and improved performance outcomes (Afsar & Umrani, 2022; Gotsis & Grimani, 2021). These findings imply that workplace spirituality facilitates an adaptive and supportive work

climate that enables individuals and organizations to respond effectively to contextual challenges.

H2: Workplace spirituality positively affects organizational performance.

Digital Transformation and Organizational Performance

Digital transformation involves the adoption of technology to redesign organizational processes, decision-making, and stakeholder interaction. From a strategic perspective, digital transformation enables operational efficiency, transparency, and data-driven decision-making, which are positively related to organizational performance. Recent studies demonstrate that digital transformation enhances performance by improving coordination, knowledge sharing, service delivery, and process automation (Pettersson, 2021; Verhoef et al., 2021). In the education sector, digital transformation has been shown to increase teaching effectiveness, administrative efficiency, and stakeholder satisfaction, although disparities in infrastructure and digital literacy may weaken performance outcomes (Saunila et al., 2019; Vuori et al., 2019). These findings suggest that digital transformation can serve as a strategic driver of performance when organizations have sufficient readiness and supporting capabilities.

H3: Digital transformation positively affects organizational performance.

Digital Transformation as a Moderator

The moderating role of digital transformation reflects the view that technology can strengthen or enable the effects of leadership and cultural resources on organizational outcomes. Studies show that digital technologies enhance leaders' ability to coordinate, communicate, and innovate, thereby amplifying the impact of leadership behaviors on performance (Banks et al., 2022; Hartl & Hess, 2017). Similarly, digital transformation may enable spiritual values to be translated into organizational processes by facilitating collaboration, feedback, and engagement. However, recent findings indicate that digital transformation does not always moderate value-based relationships because technology does not necessarily transform underlying behavioral or relational mechanisms (El Sawy et al., 2020; Zhou et al., 2024). These mixed results highlight the importance of examining digital transformation's role within specific organizational contexts, such as education systems in emerging economies.

H4: Digital transformation moderates the relationship between sustainable leadership and organizational performance.
H5: Digital transformation moderates the relationship between workplace spirituality and organizational performance.

This study is grounded in the RBV theory, which posits that organizations achieve competitive advantage through unique internal resources and capabilities. In this context, workplace spirituality and sustainable leadership represent intangible human resources, while digital transformation serves as a dynamic capability enabling resource optimization.

This theoretical model integrates leadership, spirituality, and technology under a unified framework, offering a contemporary understanding of performance in education. It assumes that technology and human values are not opposing forces but complementary drivers of sustainable excellence.

Conceptual Framework

The study framework model is depicted in Figure 1.

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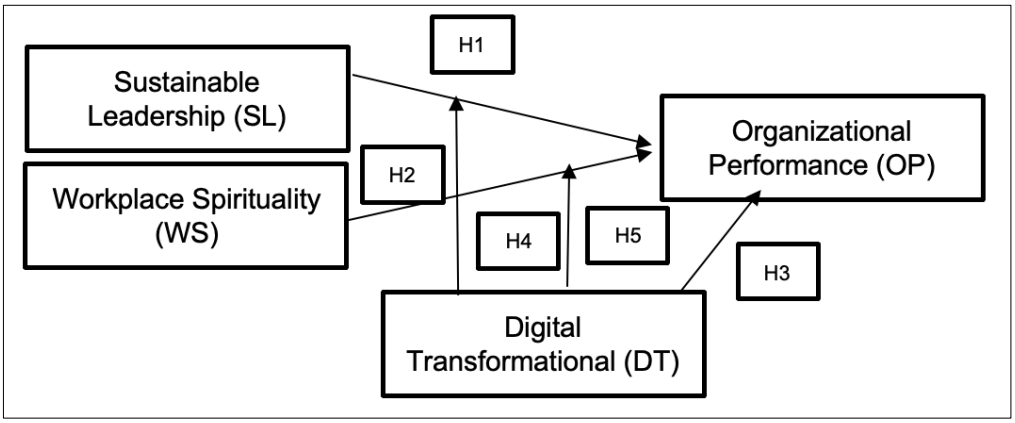
Figure 1. Research Framework



RESEARCH METHOD

Research Design

This study employed a quantitative research approach with a cross-sectional survey design to examine the relationships among workplace spirituality, sustainable leadership, digital transformation, and organizational performance in educational institutions. PLS-SEM was selected as the analytical method because the study explored predictive relationships among latent constructs, used reflective measurement indicators, and involved a relatively small and non-normally distributed sample. PLS-SEM is recommended for exploratory models, theory development research, and models involving complex mediation or moderation (Hair et al., 2022).

Population and Sample

The target population consisted of school personnel working in public and private educational institutions in Indonesia who held managerial or administrative responsibilities. A purposive sampling strategy was applied to identify respondents with sufficient knowledge and involvement in leadership processes, organizational operations, and digital system implementation. Data were collected from 165 respondents representing 52 schools. Each school contributed one principal, two division or unit leaders, and one administrator or teacher, yielding four respondents per school. This approach ensured representation from multiple hierarchical levels and organizational functions, reducing individual-level bias and enhancing construct validity. Respondents were distributed across diverse school types (public, private, and faith-based) and geographic areas to enhance generalizability. Demographic and institutional characteristics were documented to contextualize the structural model.

Research Instruments

All variables were measured using reflective indicators from validated scales and adapted to the education sector. Responses were collected using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Workplace Spirituality

The workplace spirituality items were adapted from Milliman et al. (2003) and measured three core dimensions: meaningful work, sense of community, and value alignment. A total of twelve statements were included to capture these constructs. Sample items illustrate the focus of the scale, such as “My work contributes to a meaningful purpose,” reflecting meaningful work; “I feel connected to people at my workplace,” representing the sense of community; and “My values fit well with the school’s mission,” indicating value alignment.

Sustainable Leadership

Sustainable leadership was measured using nine items adapted from Avery and Bergsteiner (2011), capturing dimensions such as long-term vision, ethical behavior, stakeholder orientation, and a learning-oriented culture. Example statements include "Leaders promote ethical decision-making," which reflects the ethical dimension, and "Leaders prioritize long-term organizational sustainability," which represents the long-term vision embedded in the construct.

Digital Transformation

Digital transformation was measured using eight items adapted from Pettersson (2021) and Verhoef et al. (2021), capturing key aspects of digital adoption, process redesign, and capability development. Example statements include "Our school uses digital platforms to improve decision-making," which reflects the strategic use of digital tools, and "Digital technologies support administrative processes," which highlights the role of digital systems in enhancing operational efficiency.

Organizational Performance

Organizational performance was measured using ten items adapted from Chenhall and Langfield-Smith (2007). The scale captures stakeholder satisfaction, teaching quality, operational efficiency, and institutional sustainability. Illustrative statements include "Our school provides high-quality educational services," which reflects the institution's commitment to academic excellence, and "Administrative processes operate efficiently," which represents the effectiveness of internal management systems.

Pilot Testing and Content Validation

A pilot study was conducted with 30 respondents from 6 schools to evaluate clarity, reliability, and item performance. Items with low factor loadings (< 0.60), redundancy, or ambiguous wording were revised or eliminated.

Content validity was further assessed by three subject matter experts in educational management and research methodology. Feedback focused on item clarity, contextual appropriateness, and scale reliability.

Pilot testing results demonstrated acceptable reliability for all constructs (Cronbach's α > 0.70).

Data Collection Procedures

The questionnaire was administered online using institutional distribution channels. Respondents were required to confirm their leadership or administrative role before participation. Incomplete or duplicate responses were excluded. Data collection procedures emphasized voluntary participation, anonymity, and confidentiality. Schools did not receive incentives for participation.

Data Analysis Technique

Data analysis was conducted using PLS-SEM with SmartPLS 4.0. The analytical procedure was carried out in two sequential stages, beginning with the evaluation of the measurement (outer) model to assess indicator reliability and construct validity, followed by the assessment of the structural (inner) model to examine the hypothesized relationships among variables.

RESULTS

Table 1. Validity Test

	SL	OP	WS	DT	DT x SL	DT x WS

SL.1	0.921					
SL.2	0.854					
SL.3	0.743					
SL.4	0.870					
SL.5	0.648					
SL.6	0.659					
SL.7	0.633					
SL.8	0.556					
SL.9	0.832					
OP.1		0.425				
OP.2		0.666				
OP.3		0.601				
OP.4		0.620				
OP.5		0.748				
OP.6		0.700				
OP.7		0.849				
OP.8		0.712				
OP.9		0.797				
WS.1			0.883			
WS.10			0.744			
WS.2			0.883			
WS.3			0.889			
WS.4			0.799			
WS.5			0.790			
WS.6			0.825			
WS.7			-0.009			
WS.8			0.529			
WS.9			0.835			
DT.1				0.840		
DT.2				0.855		
DT.3				0.853		
DT.4				0.794		
DT x WS						1.000
DT x SL					1.000	

Notes: DT (Digital Transformation), WS (Workplace Spirituality), SL (Sustainable Leadership), OP (Organizational Performance)

The results in Table 1 indicate that items with outer loadings below 0.70, namely SL5, SL6, SL7, SL8, OP1, OP2, OP3, OP4, WS7, and WS8, were deemed invalid. Consequently, these indicators were excluded from the model to enhance construct validity and strengthen the overall reliability of the measurement.

Table 2. Fornell Discriminant Validity

	SL	OP	WS	DT
SL	0.756			
OP	0.534	0.690		
WS	0.756	0.780	0.763	
DT	0.384	0.529	0.467	0.836

Notes: DT (Digital Transformation), WS (Workplace Spirituality), SL (Sustainable Leadership), OP (Organizational Performance)

Table 2 indicates that the Sustainable Leadership, Organizational Performance, and Workplace Spirituality variables fail to meet Fornell's criterion because each construct's value is lower than its correlations with other constructs.

Table 3. HTMT Discriminant Validity

	SL	OP	WS	DT	DT x SL	DT x WS
SL						
OP	0.548					
WS	0.740	0.837				
DT	0.434	0.588	0.551			
DT x SL	0.136	0.157	0.156	0.284		
DT x WS	0.138	0.149	0.200	0.189	0.818	

Notes: DT (Digital Transformation), WS (Workplace Spirituality), SL (Sustainable Leadership), OP (Organizational Performance)

According to Table 3, all variables are declared to pass discriminant validity with HTMT < 1. Despite the Fornell–Larcker criterion indicating overlap, the Heterotrait–Monotrait ratio (HTMT) values were all below the conservative threshold of 0.90, suggesting adequate discriminant validity (Henseler et al., 2015). Recent SEM literature argues that HTMT is more sensitive and reliable than Fornell–Larcker in detecting discriminant validity issues, particularly in models with conceptually related constructs (Hair et al., 2022). Therefore, discriminant validity was primarily assessed using HTMT, while Fornell–Larcker results were interpreted cautiously.

Table 4. Cross-Loading Discriminant Validity

	SL	OP	WS	DT	DT x SL	DT x WS
SL.1	0.921	0.570	0.769	0.329	0.057	0.136
SL.2	0.854	0.328	0.541	0.232	-0.093	0.147
SL.3	0.743	0.267	0.471	0.266	-0.205	-0.051
SL.4	0.870	0.480	0.669	0.282	-0.040	0.020
SL.5	0.648	0.408	0.474	0.422	-0.138	0.050
SL.6	0.659	0.476	0.710	0.273	0.119	0.270
SL.7	0.633	0.076	0.253	0.252	-0.082	0.099
SL.8	0.556	0.101	0.201	0.289	-0.047	0.015
SL.9	0.832	0.396	0.516	0.285	-0.101	0.114
OP.1	-0.070	0.425	0.175	0.189	0.192	0.095
OP.2	0.169	0.666	0.410	0.270	-0.043	0.035
OP.3	0.278	0.601	0.380	0.261	0.012	0.137
OP.4	0.501	0.620	0.640	0.229	0.068	0.161
OP.5	0.466	0.748	0.623	0.371	-0.119	-0.108
OP.6	0.452	0.700	0.620	0.600	0.048	-0.015
OP.7	0.362	0.849	0.580	0.503	-0.086	-0.105
OP.8	0.329	0.712	0.551	0.241	-0.187	-0.027
OP.9	0.517	0.797	0.631	0.460	-0.145	-0.169
WS.1	0.682	0.564	0.883	0.170	0.007	0.126
WS.10	0.579	0.622	0.744	0.625	0.300	0.198
WS.2	0.632	0.714	0.883	0.365	0.076	0.145
WS.3	0.728	0.715	0.889	0.569	0.125	0.244
WS.4	0.696	0.577	0.799	0.236	-0.004	0.164
WS.5	0.640	0.592	0.790	0.515	0.232	0.275
WS.6	0.682	0.581	0.825	0.239	-0.003	0.087
WS.7	-0.005	0.102	-0.009	-0.199	-0.100	-0.053

WS.8	0.214	0.530	0.529	0.363	0.160	0.103
WS.9	0.560	0.674	0.835	0.277	-0.083	0.008
DT.1	0.515	0.442	0.476	0.840	0.145	0.134
DT.2	0.260	0.464	0.435	0.855	0.453	0.246
DT.3	0.326	0.455	0.359	0.853	0.159	0.186
DT.4	0.173	0.407	0.282	0.794	0.121	-0.018
DT x WS	0.133	-0.024	0.186	0.169	0.818	1.000
DT x SL	-0.050	-0.065	0.108	0.268	1.000	0.818

Notes: DT (Digital Transformation), WS (Workplace Spirituality), SL (Sustainable Leadership), OP (Organizational Performance)

Table 4 shows that all items meet the cross-loading validity criteria except for item WS7, which does not exhibit the highest loading on its intended construct and instead loads more strongly on another variable. Although indicator purification was conducted by removing items with outer loadings below 0.70, several measurement issues remained, particularly for the organizational performance construct. Specifically, the Average Variance Extracted (AVE) for organizational performance was 0.476, which falls slightly below the recommended threshold of 0.50, indicating marginal convergent validity (Hair et al., 2022). In addition, the Fornell–Larcker criterion was not fully satisfied, as the square root of AVE for organizational performance was lower than its correlations with workplace spirituality and sustainable leadership, suggesting potential overlap among constructs.

To address these concerns, further diagnostic analyses were conducted. First, item-level examination revealed that several organizational performance indicators exhibited low communalities and outer loadings, particularly OP1 (0.425) and OP2–OP4, indicating limited contribution to construct variance. These items primarily captured operational aspects that overlapped conceptually with digital process efficiency, which may explain their high correlations with digital transformation.

Table 5. Reliability Test

	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
SL	0.908	0.935	0.921	0.571
OP	0.860	0.878	0.888	0.476
WS	0.898	0.933	0.925	0.582
DT	0.856	0.859	0.903	0.698

Notes: DT (Digital Transformation), WS (Workplace Spirituality), SL (Sustainable Leadership), OP (Organizational Performance)

Table 5 shows that the AVE value for organizational performance is below 0.50, indicating that organizational performance does not meet the assumption of convergent validity. In contrast, the other variables have AVE values above 0.50, meaning they satisfy this requirement. In addition, both Cronbach's alpha and composite reliability values exceed 0.60, indicating that all variables demonstrate acceptable reliability.

Table 6. R square

	R-square	R-square adjusted
OP	0.705	0.670

Notes: OP (Organizational Performance)

Table 6 indicates that sustainable leadership, workplace spirituality, and digital transformation collectively explain 70.5% of the variance in organizational performance.

Table 7. F Square

	SL	OP	WS	DT	DT x SL	DT x WS
SL		0.063				
OP						
WS		0.921				
DT		0.194				
DT x SL		0.053				
DT x WS		0.000				

Notes: DT (Digital Transformation), WS (Workplace Spirituality), SL (Sustainable Leadership), OP (Organizational Performance)

Based on Table 7, sustainable leadership and the interaction term DT × SL have F-squared values ranging from 0.02 to 0.15, indicating that both sustainable leadership and its interaction with digital transformation exert a weak influence on organizational performance. The interaction between sustainable leadership and workplace spirituality shows an F-squared value of 0.000, which signifies a negligible effect on organizational performance. Workplace spirituality has an f-square value within the range of 0.15 to 0.35, suggesting a moderate influence on organizational performance. Meanwhile, digital transformation has an f-square value greater than 0.35, indicating a strong influence on organizational performance.

Table 8. Q Square

	Q^2 Predict	RMSE	MAE
OP	0.594	0.668	0.541

Notes: OP (Organizational Performance), RMSE (Root Mean Square Error), MAE (Mean Absolute Error)

The value of q-square in Table 8 is 0.59 > 0.35, which means that the model has a very good predictive model.

Table 9. Hypothesis Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
SL-> OP	-0.225	-0.241	0.205	1.096	0.273
WS -> OP	0.842	0.839	0.210	4.004	0.000
DT -> OP	0.288	0.310	0.115	2.506	0.012
DT x SL -> OP	-0.266	-0.265	0.199	1.337	0.181
DTx WS -> OP	0.002	0.017	0.225	0.011	0.992

Notes: DT (Digital Transformation), WS (Workplace Spirituality), SL (Sustainable Leadership), OP (Organizational Performance)

Table 9 indicates that sustainable leadership does not have a statistically significant effect on organizational performance, as reflected by a p-value of 0.273 (> 0.05) and a coefficient of –0.225. Accordingly, H1 is rejected. In contrast, workplace spirituality shows a strong and significant positive effect on organizational performance ($\beta = 0.842$, $p < 0.001$), supporting H2. Digital transformation also demonstrates a significant positive influence on organizational performance, with a p-value of 0.012 (< 0.05) and a coefficient of 0.288, leading to the acceptance of H3.

Regarding the moderating effects, the interaction between digital transformation and sustainable leadership is not statistically significant (β = –0.266, p = 0.181), resulting in the rejection of H4. Similarly, the interaction between digital transformation and workplace spirituality shows no significant effect on organizational performance (β = 0.002, p = 0.992), indicating that H5 is also rejected. These findings confirm that digital transformation contributes directly to organizational performance but does not function as a moderating variable in the relationships between human-centered factors and performance outcomes.

Figure 2. PLS Model

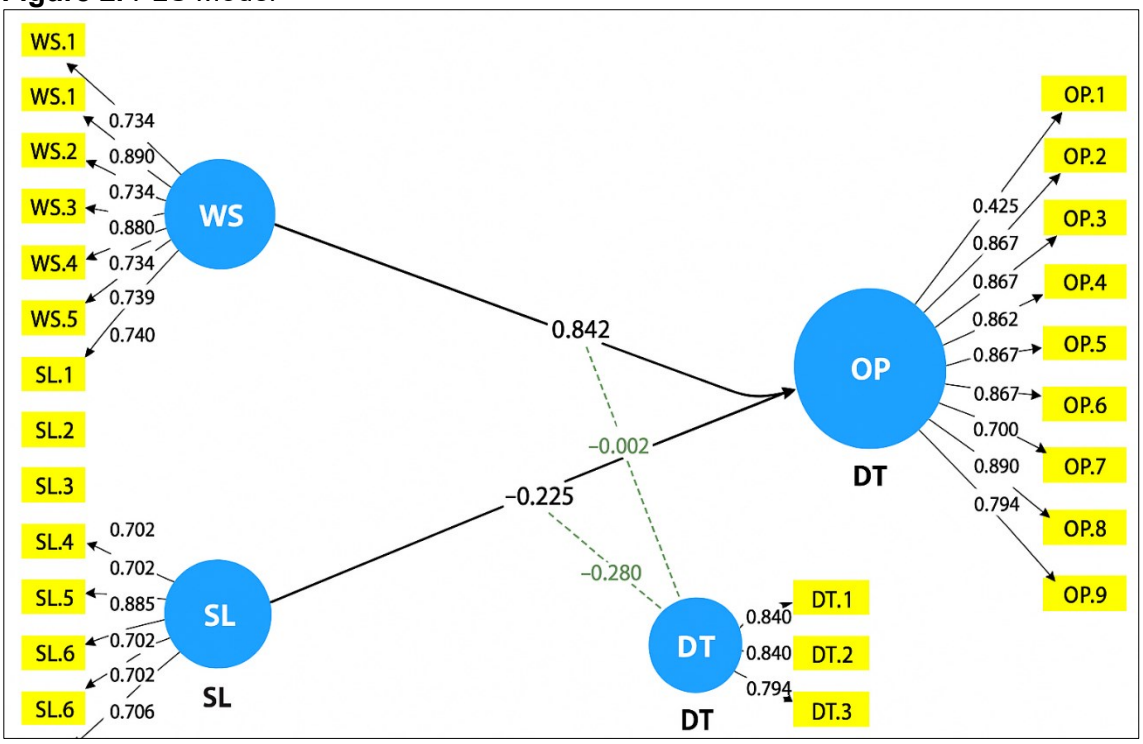


Figure 2 presents the results of the PLS-SEM analysis, illustrating the structural relationships among workplace spirituality, sustainable leadership, digital transformation, and organizational performance, as well as the moderating effects of digital transformation. The model shows that workplace spirituality has the strongest positive path coefficient toward organizational performance (β = 0.842), indicating a substantial and dominant influence on school organizational performance. Digital transformation also demonstrates a positive direct effect on organizational performance (β = 0.288), suggesting that the adoption and utilization of digital technologies contribute meaningfully to improving school effectiveness and efficiency. In contrast, sustainable leadership exhibits a negative and non-significant direct relationship with organizational performance (β = –0.225), implying that sustainability-oriented leadership practices do not directly translate into observable performance outcomes in the sampled educational institutions. Furthermore, the interaction paths between digital transformation and sustainable leadership, as well as between digital transformation and workplace spirituality, show very small and non-significant coefficients, indicating that digital transformation does not function as a moderating variable in strengthening or weakening the effects of human-centered factors on organizational performance. The model also reports a high coefficient of determination (R^2 = 0.705) for organizational performance, demonstrating that workplace spirituality, sustainable leadership, and digital transformation collectively explain a substantial proportion of variance in school organizational performance. Overall, the findings confirm that workplace spirituality

serves as the most influential driver of performance, while digital transformation operates as a direct enabling capability rather than a contextual moderator within the proposed research framework.

DISCUSSION

The Reasons Why Sustainable Leadership Becomes Non-Significant

The findings indicate that sustainable leadership does not have a statistically significant direct effect on organizational performance, leading to the rejection of H1. This result does not suggest that leadership is unimportant; rather, it implies that the influence of sustainable leadership may be indirect and contingent on intermediate mechanisms such as organizational culture, innovation capability, or teacher professional development. Previous studies similarly report that sustainable leadership primarily shapes long-term capacity building and adaptive potential rather than producing immediate performance outcomes (Hargreaves & Fink, 2004; Lacy et al., 2020).

In the context of developing-country education systems, structural constraints, such as bureaucratic governance, limited managerial autonomy, and slow institutional decision-making, may further delay the translation of sustainable leadership principles into observable performance gains. As a result, leadership practices oriented toward long-term sustainability may require extended time horizons before their impact becomes measurable.

Moreover, the non-significant effect of sustainable leadership may reflect its overlap with stronger value-based mechanisms, particularly workplace spirituality. In environments where shared meaning, moral purpose, and relational trust are highly salient, leadership effects may be absorbed into broader cultural and spiritual dynamics rather than operating as an independent driver. This finding contributes theoretically by identifying boundary conditions for sustainable leadership effectiveness and highlights the need for future research to test mediation pathways rather than assuming direct performance effects.

The Role of Workplace Spirituality on Organizational Performance

In contrast, the results strongly support H2, demonstrating that workplace spirituality has the largest and most robust positive effect on organizational performance. This finding aligns with the Resource-Based View, which emphasizes the strategic value of intangible resources such as shared values, purpose, and collective identity. These resources are difficult to imitate and therefore constitute a sustainable source of competitive advantage. Consistent with prior research (Afsar & Umrani, 2022; Gotsis & Grimani, 2021), workplace spirituality enhances trust, emotional attachment, and intrinsic motivation, which in turn foster cooperation, resilience, and discretionary effort. In school settings, where performance is closely tied to relational quality, ethical commitment, and emotional engagement, spirituality functions as a binding mechanism that aligns individual behavior with institutional goals. This explains its strong predictive role in shaping organizational performance.

From a theoretical perspective, workplace spirituality can be understood both as a strategic capability under RBV and as a legitimacy-enhancing mechanism under Stakeholder Theory. By promoting ethical conduct, shared meaning, and social responsibility, spirituality helps educational institutions meet the expectations of teachers, students, parents, and communities.

Supporting this interpretation, bootstrapping analysis using bias-corrected confidence intervals confirms that the effect of workplace spirituality on organizational performance

is stable and statistically robust, with confidence intervals not crossing zero. While digital transformation also shows a positive effect with a moderate effect size ($f^2 = 0.194$), sustainable leadership and interaction terms exhibit small effect sizes ($f^2 < 0.15$), reinforcing their limited explanatory power within the structural model.

Digital Transformation as a Direct Driver but Not a Moderator

The findings of this study demonstrate that digital transformation plays a significant and positive role in enhancing organizational performance, thereby supporting H3. This result is consistent with prior research emphasizing that digitalization improves administrative efficiency, information transparency, and service delivery within educational institutions (Saunila et al., 2019; Verhoef et al., 2021). From a resource-based view (RBV) perspective, digital transformation functions as a valuable organizational capability that enables schools to optimize operational processes, automate routine tasks, and improve data-driven decision-making. These technological improvements contribute directly to performance outcomes, particularly in terms of efficiency, responsiveness, and coordination.

Despite its direct contribution, digital transformation did not moderate the relationships between workplace spirituality or sustainable leadership and organizational performance, leading to the rejection of H4 and H5. This finding suggests that digital technologies enhance performance independently but do not fundamentally alter how human-centered variables exert their influence. One plausible explanation is that digital adoption in educational institutions often emphasizes technical implementation rather than behavioral or cultural transformation. Schools may introduce digital systems without fully integrating them into leadership practices, organizational values, or daily work routines. As a result, digital transformation functions primarily as an operational enabler rather than a contextual amplifier that strengthens or reshapes the effects of workplace spirituality and sustainable leadership. This interpretation aligns with recent studies indicating that digitalization frequently improves process efficiency while leaving relational, ethical, and leadership mechanisms largely unchanged unless accompanied by deeper organizational change (El Sawy et al., 2020).

Theoretically, these findings refine the role of digital transformation within the RBV framework by clarifying that it operates as a substantive capability rather than a contingency resource. While digital technologies contribute meaningfully to organizational outcomes, they do not substitute for or intensify value-based and leadership-driven mechanisms. This distinction is particularly relevant in educational settings, where performance is strongly influenced by ethical orientation, shared purpose, and relational dynamics that extend beyond technological efficiency.

In addition, the results indicate that sustainable leadership may influence organizational performance indirectly rather than through a direct effect. The strong impact of workplace spirituality, coupled with the non-significant direct relationship between sustainable leadership and performance, suggests a potential mediation pathway in which leadership shapes organizational outcomes by fostering shared values, meaning, and ethical commitment. Although mediation was not explicitly tested in this study, this pattern is consistent with the long-term and value-driven nature of sustainable leadership, which emphasizes cultural development and moral responsibility over immediate performance gains. Future research should therefore explore indirect and longitudinal pathways to better capture how leadership influences performance through value-based mechanisms.

From a practical standpoint, these findings imply that investments in digital transformation alone are insufficient to generate sustainable performance

improvements. Educational institutions should complement technological initiatives with leadership development, cultural alignment, and capacity-building efforts to ensure that digital tools are meaningfully embedded in organizational practices. Strengthening workplace spirituality and ethical leadership alongside digital capabilities may enable schools to achieve more balanced and enduring performance outcomes, particularly in environments characterized by rapid institutional and technological change.

Integrative Implications for Theory and Practice

Taken together, the findings highlight the primacy of human-centered values in shaping organizational performance in educational institutions. Workplace spirituality emerges as the most influential driver, reinforcing the strategic importance of shared meaning, ethical commitment, and relational cohesion. While digital transformation contributes positively to performance as an operational capability, it does not alter the mechanisms through which human and value-based factors exert their influence. The absence of moderation effects clarifies that technology functions as a complementary enabler rather than a transformational amplifier.

From a theoretical perspective, this study extends the Resource-Based View and Stakeholder Theory by distinguishing deeply embedded intangible resources from technical capabilities. Practically, school leaders and policymakers should prioritize initiatives that cultivate workplace spirituality and embed digital tools within existing cultural and ethical frameworks. Digital investments will yield sustainable value only when aligned with institutional purpose, leadership values, and human engagement.

CONCLUSION

This study examined the effects of workplace spirituality, sustainable leadership, and digital transformation on organizational performance in schools, as well as the moderating role of digital transformation in these relationships. Using PLS-SEM analysis on data collected from respondents across educational institutions in Indonesia, the study integrates human-centered and technology-oriented perspectives to explain performance outcomes in the education sector.

The findings indicate that workplace spirituality has the strongest positive effect on organizational performance, demonstrating that shared meaning, ethical alignment, and collegial relationships play a central role in shaping school effectiveness. Digital transformation also shows a significant positive effect, indicating that the use of digital systems and tools contributes to improved coordination, efficiency, and information management. In contrast, sustainable leadership does not show a significant direct effect on organizational performance. In addition, digital transformation does not moderate the effects of workplace spirituality or sustainable leadership, suggesting that technology supports performance independently rather than altering the influence of human-centered factors.

These results imply that performance improvement in schools depends primarily on value-based and relational factors, supported by appropriate technological implementation. Digital initiatives are most effective when aligned with existing work practices and accompanied by adequate user capability development. From a theoretical perspective, the study extends the application of the Resource-Based View and Stakeholder Theory by distinguishing between intangible value-driven resources that directly shape performance and operational capabilities that support organizational processes. For practitioners, the findings highlight the importance of cultivating shared purpose and ethical commitment while ensuring that digital tools are meaningfully integrated into daily school operations.

LIMITATION

Several limitations should be acknowledged. First, the study employed a cross-sectional design, which restricts the ability to capture changes in leadership practices, spirituality, and digital use over time. Future research may adopt longitudinal approaches to examine how these factors influence performance across different stages of organizational development.

Second, the sample was limited to a specific group of educational institutions, which may limit the generalizability of the findings to other regions or education systems. Expanding the sample to include schools with different governance structures and cultural contexts would enhance the applicability of future results.

Third, the study relied on self-reported questionnaire data, which may be subject to respondent bias. Although this approach provides insight into perceived organizational conditions, future studies could incorporate objective performance indicators or qualitative methods to obtain a more comprehensive perspective.

Finally, the present study did not test indirect relationships among the variables. Future research may examine mediating factors such as organizational culture, teacher engagement, or innovation practices to better explain how leadership and workplace values influence organizational performance in educational settings.

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