

The effect of digital-based transformational leadership on employee performance through innovation at MIN Binjai

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh kepemimpinan transformasional berbasis digital terhadap kinerja pegawai melalui inovasi di Madrasah Ibtidaiyah Negeri (MIN) Binjai. Penelitian menggunakan pendekatan kuantitatif asosiatif-kausal dengan melibatkan 33 pegawai yang dipilih menggunakan teknik sampling jenuh. Data dikumpulkan melalui kuesioner dengan skala Likert lima poin dan dianalisis menggunakan Partial Least Squares Structural Equation Modeling (SEM-PLS) dengan bantuan SmartPLS. Hasil penelitian menunjukkan bahwa kepemimpinan transformasional berbasis digital berpengaruh positif dan signifikan terhadap inovasi dan kinerja pegawai. Inovasi juga berpengaruh positif dan signifikan terhadap kinerja pegawai. Selain itu, inovasi secara signifikan memediasi hubungan antara kepemimpinan transformasional berbasis digital dan kinerja pegawai. Hubungan langsung dan tidak langsung yang signifikan menunjukkan bahwa inovasi berperan sebagai mediator parsial. Temuan ini menunjukkan bahwa kepemimpinan transformasional berbasis digital berkaitan dengan kinerja pegawai baik secara langsung maupun tidak langsung melalui perilaku kerja inovatif, serta menegaskan pentingnya kepemimpinan berorientasi digital dan inovasi pegawai dalam mendukung kinerja di MIN Binjai.

Kata Kunci: kepemimpinan transformasional berbasis digital; kinerja pegawai; inovasi; perilaku kerja inovatif; SEM-PLS

ABSTRACT

This study examines the effect of digital-based transformational leadership on employee performance through innovation at Madrasah Ibtidaiyah Negeri (MIN) Binjai. A quantitative causal-associative approach was employed involving 33 employees selected using saturated sampling. Data were collected through a questionnaire using a five-point Likert scale and analyzed using Partial Least Squares Structural Equation Modeling (SEM-PLS) with SmartPLS. The results show that digital-based transformational leadership has a positive and significant effect on innovation and employee performance. Innovation also has a positive and significant effect on employee performance. Furthermore, innovation significantly mediates the relationship between digital-based transformational leadership and employee performance. The significant direct and indirect relationships indicate that innovation functions as a partial mediator. These findings demonstrate that digital-based transformational leadership is associated with employee performance both directly and indirectly through innovative work behavior, highlighting the importance of digital-oriented leadership and employee innovation in supporting performance at MIN Binjai.

Keywords: digital-based transformational leadership; employee performance; innovation; innovative work behavior; SEM-PLS

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1. INTRODUCTION

In the era of rapid technological transformation and increasingly digitalized organizational systems, public Islamic educational institutions are required to continuously improve the quality and effectiveness of their services. Employees, including teaching and educational personnel, play a central role in achieving institutional objectives because the quality of educational and administrative services depends substantially on their performance. Employee performance is closely related to organizational and managerial conditions, particularly the leadership exercised within educational institutions. Effective principal leadership can provide direction, support, and working conditions that enable teachers and educational staff to perform their responsibilities more effectively (Ani, 2025). In addition, employee performance is associated with motivational and work-environment factors that shape how employees carry out their organizational responsibilities (Pratama, 2020). Employee performance in the madrasah environment can also be understood as an organizational outcome influenced by individual and organizational factors (Bhastary et al., 2024). At Madrasah Ibtidaiyah Negeri (MIN) Binjai, located at Jl. Ikan Bawal No. 6, Tanah Tinggi Village, these issues are particularly relevant because the institution faces the need to strengthen employee competencies while adapting its teaching and administrative activities to increasingly digital-based work practices.

Digital-based transformational leadership is relevant to these organizational demands because it combines transformational leadership practices with the use of digital technology in directing, supporting, and developing employees. In this study, digital-based transformational leadership is reflected through digital vision, e-coaching, digital stimulation, and digital role modeling. Through these practices, a leader is expected not only to provide organizational direction but also to encourage employees to adapt to technological developments and integrate digital practices into their work. Digital leadership has become increasingly important for organizational transformation because leadership, digitalization, organizational agility, and organizational culture are interconnected in supporting organizational performance (Alhameed & Emeagwali, 2026). In educational organizations, digital leadership strategies are increasingly relevant to teacher performance in the context of technological transformation (Sari et al., 2024). Leadership and professional development supported by digital innovation are also relevant to the development of teacher competence (Norman et al., 2025). Transformational leadership further contributes to organizational attitudes and behaviors, including organizational commitment and organizational citizenship behavior (Hermanto et al., 2024; Nguni et al., 2006).

Despite the importance of leadership for organizational outcomes, the relationship between leadership and employee performance should not necessarily be understood as a simple direct relationship. Evidence from public-sector leadership research indicates that leadership outcomes can vary depending on leadership style, organizational context, and the mechanisms through which leadership influences employees (Backhaus & Vogel, 2022). Organizational outcomes may also be shaped through intervening mechanisms. For example, Tanjung et al. (2025) identified organizational commitment as a mechanism linking organizational culture and performance in an educational context. Similarly, transformational leadership has been examined in relation to employee performance through an intervening mechanism such as job satisfaction, indicating that the relationship between leadership and performance may operate through additional employee-level processes (Sinaga & Siregar, 2023). These findings provide a basis for examining an intervening mechanism that may explain how digital-based transformational leadership is associated with employee performance in the context of MIN Binjai.

This study proposes innovation, particularly innovative work behavior, as a mediating variable in the relationship between digital-based transformational leadership and employee performance. In the context of this study, innovation reflects employees' ability to generate ideas, promote those ideas, and implement them in their work. Transformational and innovative leadership practices within madrasahs can support improvements in teacher performance by encouraging employees to respond more actively and creatively to organizational needs (Khoriroh et al., 2025). The increasing use of technology in educational environments also creates opportunities for teachers to develop more creative and innovative approaches to their work (Asfiati, 2023). Accordingly, when the head of the madrasah provides a clear digital vision, technology-based guidance, digital stimulation, and practical examples of technology use, employees may be more encouraged to seek new methods, develop solutions to work-related problems, promote new ideas, and implement more efficient digital practices. These innovative behaviors may subsequently contribute to improved quality, timeliness, efficiency, and effectiveness of employee performance.

The contribution of this study lies in examining digital-based transformational leadership not merely as the use of technology by a leader, but as transformational leadership expressed through digital vision, e-coaching, digital stimulation, and digital role modeling. The study further examines innovation as the mechanism through which employees may translate such leadership practices into improved performance. Therefore, rather than examining only the direct relationship between leadership and employee performance, this study evaluates both the direct effect of digital-based transformational leadership on employee

performance and its indirect effect through innovation within a public Islamic elementary school context. Specifically, this study aims to analyze the effect of digital-based transformational leadership on innovation, the effect of innovation on employee performance, the direct effect of digital-based transformational leadership on employee performance, and the mediating role of innovation in the relationship between digital-based transformational leadership and employee performance at MIN Binjai.

2. RESEARCH METHOD

This study employed a quantitative causal-associative approach to examine the relationships among digital-based transformational leadership, innovation, and employee performance. The study was conducted at Madrasah Ibtidaiyah Negeri (MIN) Binjai in 2026. The study population consisted of 33 employees, all of whom were included as respondents using a saturated sampling technique. Thus, the total number of respondents analyzed in this study was 33. The madrasah principal served as the leadership object assessed by the respondents in measuring digital-based transformational leadership.

Primary data were collected using a questionnaire distributed through Google Forms. All questionnaire items were measured using a five-point Likert scale. Digital-based transformational leadership (X) was measured using eight items representing digital vision, e-coaching, digital stimulation, and digital role modeling. Innovation (M), representing innovative work behavior, was measured using six items covering idea generation, idea promotion, and idea realization. Employee performance (Y) was measured using eight items focusing on the quality of work results, quantity of output, timeliness, and utilization of digital systems.

The data were analyzed using Partial Least Squares Structural Equation Modeling (SEM-PLS) with SmartPLS software. The analysis consisted of measurement model (outer model) and structural model (inner model) evaluation. The outer model was evaluated to assess convergent validity and construct reliability. Convergent validity was assessed based on indicator loading factors and Average Variance Extracted (AVE), while construct reliability was evaluated using Cronbach's Alpha and Composite Reliability. The criteria applied in this study were loading factors greater than 0.70, AVE greater than 0.50, and Cronbach's Alpha and Composite Reliability greater than 0.70.

The inner model was evaluated to examine the structural relationships among the research variables by assessing path coefficients and the statistical significance of direct and indirect effects. Hypothesis testing was conducted using the bootstrapping procedure in SmartPLS. A relationship was considered statistically significant when the T-statistic was 1.96 or higher or the P-value was 0.05 or lower. The mediation analysis examined the indirect effect of digital-based transformational leadership on employee performance through innovation. The direct effect of digital-based transformational leadership on employee performance was also examined to determine the nature of the mediating relationship.

3. RESULTS AND DISCUSSION

A. Description of Respondents' Characteristics

The analysis of respondents' characteristics was conducted to describe the demographic profile of the 33 employees at MIN Binjai. The respondents were classified according to gender, age, position, and educational background, as presented in Table 1.

Table 1. Respondents' Characteristics

Characteristic	Category	Number (People)	Percentage (%)
Gender	Male	10	30.30
	Female	23	69.70
Age	≤ 35 Years	14	42.42
	36–45 Years	10	30.30
	> 45 Years	9	27.28
Position	Teachers (Class/Subject/Expert/Middle-Level)	26	78.79
	Educational Staff/Administrative/Structural Staff	7	21.21
Education	Junior High School (SLTP)	1	3.03
	Bachelor's Degree (S1/Undergraduate)	32	96.97

Table 1 shows that female respondents constituted the majority of the sample, accounting for 69.70%, while male respondents accounted for 30.30%. In terms of age, the largest proportion of respondents was ≤ 35 years old (42.42%), followed by those aged 36–45 years (30.30%) and those aged > 45 years (27.28%). Most respondents were teachers (78.79%), while 21.21% were educational, administrative, or structural staff. Regarding educational background, 96.97% of respondents held a bachelor's degree, while 3.03% had a junior high school qualification.

B. Descriptive Analysis of Research Variables

Descriptive analysis was conducted to identify the tendency of respondents' answers to each research variable using a five-point Likert scale. The mean scores were classified into five categories: Very Low (1.00–1.80), Low (1.81–2.60), Moderate (2.61–3.40), High (3.41–4.20), and Very High (4.21–5.00).

C. Digital-Based Transformational Leadership (X)

Digital-based transformational leadership was measured using eight statement items covering digital vision, e-coaching, digital stimulation, and digital role modeling.

Table 2. Digital-Based Transformational Leadership (X)

Item	Indicator Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	Category
X1	The Madrasah Principal has a clear digital vision	0.0	0.0	12.1	33.3	54.5	4.42	Very High
X2	Convinces employees of the importance of digitalization	0.0	0.0	6.1	42.4	51.5	4.45	Very High
X3	Utilizes digital media for personal guidance	0.0	0.0	18.2	27.3	54.5	4.36	Very High
X4	Provides personal guidance through digital media	0.0	0.0	3.0	30.3	66.7	4.64	Very High
X5	Encourages new ways of working using digital platforms	0.0	0.0	15.2	45.5	39.4	4.24	Very High
X6	Motivates employees to participate in technology training	0.0	0.0	0.0	42.4	57.6	4.58	Very High
X7	Sets a practical example of discipline in using digital systems	0.0	0.0	12.1	36.4	51.5	4.39	Very High
X8	Demonstrates integrity and IT proficiency during meetings	0.0	0.0	9.1	45.5	45.5	4.36	Very High
Average Variable Index (X)							4.43	Very High

The average score for digital-based transformational leadership was 4.43, placing the variable in the Very High category. The highest mean was recorded for X4, "Provides personal guidance through digital media" (M = 4.64), followed by X6, "Motivates employees to participate in technology training" (M = 4.58). The lowest means were observed for X3 and X8 (M = 4.36), although both remained within the Very High category. Overall, the results indicate that respondents perceived the madrasah principal's digital-based transformational leadership practices very positively, particularly in terms of technology-based personal guidance and encouragement to participate in technology training.

D. Innovation / Innovative Work Behavior (M)

Innovation, representing innovative work behavior, was measured using six indicators covering idea generation, idea promotion, and idea realization.

Table 3. Mediating Variable (M)

Item	Indicator Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	Category
M9	Actively seeks new IT-based methods/media	0.0	3.0	3.0	48.5	45.5	4.36	Very High
M10	Finds creative solutions to technical problems	0.0	0.0	12.1	54.5	33.3	4.21	Very High
M11	Has the courage to express ideas regarding digital systems	0.0	0.0	24.2	45.5	30.3	4.06	High
M12	Persuades colleagues/superiors to support innovation	0.0	0.0	12.1	51.5	36.4	4.24	Very High
M13	Consistently applies digital methods	0.0	3.0	9.1	54.5	33.3	4.18	High
M14	Transforms conventional obstacles into more efficient solutions	0.0	3.0	9.1	57.6	30.3	4.15	High
Average Variable Index (M)							4.20	High

Innovation obtained an average score of 4.20 and was therefore categorized as High. The highest mean was found for M9, "Actively seeks new IT-based methods/media" (M = 4.36), followed by M12, "Persuades colleagues/superiors to support innovation" (M = 4.24). In contrast, M11, "Has the courage to express ideas regarding digital systems," recorded the lowest mean (M = 4.06). These findings indicate that employees generally demonstrated a high level of innovative work behavior, particularly in seeking new technology-based working methods. However, the comparatively lower score for expressing ideas regarding digital systems indicates that idea promotion was less prominent than some other aspects of innovative behavior.

E. Employee Performance (Y)

Employee performance was measured using eight indicators focusing on the quality of work results, quantity of output, timeliness, and utilization of digital systems.

Table 4. Employee Performance (Y)

Item	Indicator Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	Category
Y15	The teaching/administrative process complies with established standards	0.0	3.0	3.0	60.6	33.3	4.24	Very High
Y16	Minimizes the error rate (zero error)	3.0	0.0	6.1	57.6	33.3	4.18	High
Y17	Completes all work volume targets	0.0	0.0	15.2	45.5	39.4	4.24	Very High
Y18	Willingly takes on additional tasks assigned by the madrasah	0.0	6.1	12.1	45.5	36.4	4.12	High
Y19	Uploads/submits reports on time	0.0	0.0	15.2	45.5	39.4	4.24	Very High
Y20	Uses working time effectively to avoid work accumulation	0.0	0.0	12.1	57.6	30.3	4.18	High
Y21	Optimally uses school administration applications	0.0	3.0	12.1	48.5	36.4	4.18	High
Y22	Integrates digital competencies into service delivery	0.0	0.0	6.1	51.5	42.4	4.36	Very High
Average Variable Index (Y)							4.22	Very High

Employee performance obtained an average score of 4.22 and was categorized as Very High. The highest score was recorded for Y22, “Integrates digital competencies into service delivery” ($M = 4.36$). The lowest mean was found for Y18, “Willingly takes on additional tasks assigned by the madrasah” ($M = 4.12$), although it remained within the High category. The descriptive findings indicate that employees demonstrated particularly strong performance in integrating digital competencies into service delivery, while willingness to undertake additional tasks was comparatively less prominent.

F. SEM-PLS Model Evaluation

The SEM-PLS analysis consisted of measurement model (outer model) and structural model (inner model) evaluation using SmartPLS.

G. Evaluation of the Outer Model (Measurement Model)

The measurement model was evaluated through convergent validity and construct reliability. The results showed that all indicator loading factors were above 0.70 and that the Average Variance Extracted (AVE) values for all constructs exceeded 0.50. These results indicate that the indicators met the convergent validity criteria applied in this study.

Construct reliability was evaluated using Cronbach’s Alpha and Composite Reliability. The results showed that both measures exceeded 0.70 for all constructs, indicating that digital-based transformational leadership, innovation, and employee performance met the reliability criteria applied in the analysis.

H. Evaluation of the Inner Model and Hypothesis Testing

The structural model was evaluated by examining the path coefficients and statistical significance of the direct and indirect relationships. Statistical significance was determined using the bootstrapping results, with a T-statistic ≥ 1.96 or a P-value $\leq .05$ as the decision criteria. The hypothesis-testing results are presented in Table 5.

Table 5. Hypothesis Testing

Hypothesis	Structural Path Relationship	Path Coefficient	T-Statistic	P-Value	Description
H1	Digital-Based Transformational Leadership (X) -> Innovation (M)	0.692	6.544	0.000	Significant (H1 Accepted)
H2	Innovation (M) -> Employee Performance (Y)	0.420	3.912	0.001	Significant (H2 Accepted)
H3	Digital-Based Transformational Leadership (X) -> Employee Performance (Y)	0.463	4.225	0.000	Significant (H3 Accepted)
H4	Digital-Based Transformational Leadership (X) -> Innovation (M) -> Employee Performance (Y)	0.291	3.198	0.001	Mediating Effect (H4 Accepted)

I. Discussion

The results show that digital-based transformational leadership has a positive and significant effect on employee innovation at MIN Binjai ($\beta = 0.692$, $T = 6.544$, $p < .001$), supporting H1. This finding indicates that stronger perceptions of digital-based transformational leadership are associated with higher levels of innovative work behavior among employees. The descriptive results reinforce this relationship, as digital-based transformational leadership obtained a Very High overall mean of 4.43. In particular, personal guidance through digital media recorded the highest mean ($M = 4.64$), followed by encouragement to participate in technology training ($M = 4.58$). These results indicate that the leadership practices perceived most strongly by

employees involve direct digital guidance and support for technological development. Such practices can provide employees with greater opportunities to explore technology-based approaches and develop new ways of performing educational and administrative tasks. This interpretation is consistent with Khoriroh et al. (2025), who highlight the relevance of transformational and innovative leadership strategies in supporting teacher performance within the madrasah context.

The pattern of innovation indicators provides further insight into this relationship. Innovation was categorized as High overall ($M = 4.20$), with actively seeking new IT-based methods or media receiving the highest mean ($M = 4.36$). In contrast, employees' courage to express ideas regarding digital systems recorded the lowest mean ($M = 4.06$). This pattern suggests that employees are relatively strong in identifying and seeking technology-based alternatives but are comparatively less confident in communicating or promoting their ideas. Therefore, digital-based transformational leadership at MIN Binjai appears to be associated with employees' innovative behavior, particularly their efforts to identify new digital methods, while the promotion of innovative ideas remains an aspect that can be further strengthened.

Innovation also has a positive and significant effect on employee performance ($\beta = 0.420$, $T = 3.912$, $p = .001$), supporting H2. This finding indicates that employees who demonstrate stronger innovative work behavior also tend to demonstrate higher performance within the estimated model. Innovation enables employees to seek new methods, develop creative solutions to technical problems, promote ideas, and implement more efficient approaches to their work. The descriptive findings show a corresponding pattern: innovation was categorized as High, while employee performance was categorized as Very High. More specifically, the highest employee-performance indicator was the integration of digital competencies into service delivery ($M = 4.36$). This suggests that innovative behavior involving digital methods is particularly relevant to the technology-oriented aspects of employee performance at MIN Binjai. The importance of creativity and innovation in educational activities is also reflected by Asfiati (2023), who discusses the role of the Merdeka Curriculum in encouraging creativity and innovation among Islamic religious education teachers. In addition, Yulaikah et al. (2022) emphasize the development of competencies through innovative educational practices at the elementary-school level.

The results further demonstrate that digital-based transformational leadership has a positive and significant direct effect on employee performance ($\beta = 0.463$, $T = 4.225$, $p < .001$), supporting H3. This finding indicates that the relationship between leadership and employee performance does not operate exclusively through innovation. The descriptive findings provide additional context for this direct relationship. Employees gave particularly high evaluations to the principal's provision of personal guidance through digital media and encouragement to participate in technology training, while the highest performance indicator concerned employees' ability to integrate digital competencies into service delivery. This pattern indicates that leadership practices involving digital direction, guidance, stimulation, and role modeling are directly relevant to how employees perform technology-related aspects of their duties. This finding is consistent with Alhameed and Emeagwali (2026), who emphasize the role of strategic digital leadership in supporting digital transformation and organizational performance.

The direct effect of digital-based transformational leadership on employee performance remains substantial even after innovation is included as a mediating variable. This finding is important because it indicates that innovation explains only part of the relationship between leadership and performance. Digital-based transformational leadership may also be directly associated with employee performance through clearer work direction, technology-based guidance, and leadership role modeling. In this regard, Said (2025) provides related evidence from educational settings by highlighting the role of supervision programs in improving teaching skills and teacher performance. Within MIN Binjai, a clear digital vision can help employees understand the direction of technology use in their work, while digital guidance and practical examples from the madrasah principal can support employees in integrating technology into educational and administrative activities. Thus, the role of digital-based transformational leadership extends beyond stimulating innovation and is also directly related to the way employees perform their responsibilities.

The mediation analysis confirms that innovation has a positive and significant indirect effect in the relationship between digital-based transformational leadership and employee performance ($\beta = 0.291$, $T = 3.198$, $p = .001$), supporting H4. The reported indirect coefficient is consistent with the product of the two component paths, as the coefficient from digital-based transformational leadership to innovation ($\beta = 0.692$) multiplied by the coefficient from innovation to employee performance ($\beta = 0.420$) produces an indirect effect of approximately 0.291. At the same time, the direct effect of digital-based transformational leadership on employee performance remains positive and significant ($\beta = 0.463$, $p < .001$). Therefore, innovation functions as a partial mediator in the relationship between digital-based transformational leadership and employee performance.

The partial mediation finding provides a more comprehensive explanation of how digital-based transformational leadership is related to employee performance at MIN Binjai. Digital-based transformational

leadership has a direct relationship with employee performance, while part of its relationship with performance also operates through employees' innovative work behavior. In practical terms, leadership characterized by digital vision, e-coaching, digital stimulation, and digital role modeling can encourage employees to seek new IT-based methods, develop creative solutions, promote ideas, and consistently implement digital approaches. These innovative behaviors subsequently contribute to the way employees perform their educational and administrative responsibilities. Innovation therefore complements rather than replaces the direct role of digital-based transformational leadership in employee performance.

Taken together, the findings demonstrate a coherent relationship among the three constructs examined in this study. Digital-based transformational leadership was perceived at a Very High level, innovation was observed at a High level, and employee performance was observed at a Very High level. The structural model further shows significant relationships from digital-based transformational leadership to innovation, from innovation to employee performance, and directly from digital-based transformational leadership to employee performance. These findings indicate that the contribution of digital-based transformational leadership to employee performance at MIN Binjai can be understood through two complementary pathways: a direct pathway and an indirect pathway through innovative work behavior.

4. CONCLUSION

Based on the results of the data analysis and discussion, digital-based transformational leadership has a positive and significant effect on innovation among employees at MIN Binjai. Leadership practices reflected through digital vision, e-coaching, digital stimulation, and digital role modeling are associated with employees' ability to generate, promote, and implement new ideas in their work. Innovation also has a positive and significant effect on employee performance, indicating that stronger innovative work behavior is associated with better performance in carrying out educational and administrative responsibilities.

Digital-based transformational leadership also has a positive and significant direct effect on employee performance. Furthermore, innovation significantly mediates the relationship between digital-based transformational leadership and employee performance. The significant direct effect ($\beta = 0.463$, $p < .001$) and indirect effect through innovation ($\beta = 0.291$, $p = .001$) indicate partial mediation. Therefore, the relationship between digital-based transformational leadership and employee performance at MIN Binjai operates through two complementary pathways: directly and indirectly through employees' innovative work behavior. These findings indicate that innovation complements, rather than replaces, the direct role of digital-based transformational leadership in employee performance.

The findings also have practical implications for MIN Binjai. The madrasah can maintain leadership practices that emphasize digital guidance, technology training, digital stimulation, and role modeling in the use of technology while providing greater opportunities for employees to communicate and develop innovative ideas. This implication is particularly relevant because employees demonstrated a comparatively lower mean score for expressing ideas regarding digital systems than for other innovation indicators. Strengthening opportunities for idea promotion may therefore support the development of innovative work behavior within the institution.

This study has several limitations. The research was conducted in a single institution, MIN Binjai, with 33 respondents; therefore, the findings represent the specific organizational context examined in this study and should not be generalized broadly to other educational institutions. In addition, the study focused on three constructs—digital-based transformational leadership, innovation, and employee performance—and examined the leadership practices of one madrasah principal based on employees' assessments. Future studies may involve larger samples from multiple madrasahs or other educational institutions to examine whether similar relationships are observed across different organizational contexts. Future research may also extend the model by examining other relevant mediating or organizational factors that may help explain the relationship between digital-based transformational leadership and employee performance.

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