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ORIGINAL RESEARCH ARTICLE

Digital Transformation and Organizational Effectiveness in Madrasahs: The Mediating Role of Digital Leadership

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ABSTRACT

Digital transformation has become increasingly important for madrasahs in improving organizational processes and responding to changes in the educational environment. This study aims to examine the effect of Digital Transformation on Organizational Effectiveness and to investigate the mediating role of Digital Leadership in madrasahs. A quantitative explanatory design was employed involving 80 respondents from madrasahs. Data were collected using a five-point Likert-scale questionnaire and analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The findings show that Digital Transformation has a positive and significant effect on Digital Leadership ($\beta = 0.292$; $t = 2.663$; $p = 0.009$) and a very strong positive effect on Organizational Effectiveness ($\beta = 0.951$; $t = 26.460$; $p < 0.001$). The model explains 91.1% of the variance in Organizational Effectiveness ($R^2 = 0.911$). However, Digital Leadership does not have a significant direct effect on Organizational Effectiveness ($\beta = 0.012$; $t = 0.328$; $p = 0.744$), and its mediating effect is not supported (indirect $\beta = 0.003$). These findings indicate that the contribution of digital transformation to madrasah effectiveness occurs predominantly through a direct pathway rather than through digital leadership as a mediator. The study contributes to Islamic educational management by emphasizing digital transformation as an important organizational capability for strengthening institutional effectiveness while demonstrating that leadership mechanisms require additional organizational conditions to generate measurable outcomes.

Keywords: Digital Transformation; Digital Leadership; Organizational Effectiveness; Madrasah; Islamic Educational Management.



ABSTRAK

Transformasi digital semakin penting bagi madrasah dalam meningkatkan proses organisasi dan merespons perubahan lingkungan pendidikan. Penelitian ini bertujuan untuk menganalisis pengaruh Digital Transformation terhadap Organizational Effectiveness serta menguji peran mediasi Digital Leadership pada madrasah. Penelitian menggunakan pendekatan kuantitatif dengan desain eksplanatori yang melibatkan 80 responden dari madrasah. Data dikumpulkan melalui kuesioner skala Likert lima tingkat dan dianalisis menggunakan Partial Least Squares–Structural Equation Modeling (PLS-SEM). Hasil penelitian menunjukkan bahwa Digital Transformation berpengaruh positif dan signifikan terhadap Digital Leadership ($\beta = 0,292$; $t = 2,663$; $p = 0,009$) serta memiliki pengaruh positif yang sangat kuat terhadap Organizational Effectiveness ($\beta = 0,951$; $t = 26,460$; $p < 0,001$). Model mampu menjelaskan 91,1% variasi Organizational Effectiveness ($R^2 = 0,911$). Namun, Digital Leadership tidak berpengaruh signifikan secara langsung terhadap Organizational Effectiveness ($\beta = 0,012$; $t = 0,328$; $p = 0,744$), dan efek mediasi juga tidak terbukti (β tidak langsung = 0,003). Temuan ini menunjukkan bahwa kontribusi transformasi digital terhadap efektivitas madrasah terutama berlangsung melalui jalur langsung, bukan melalui Digital Leadership sebagai variabel mediasi. Penelitian ini memberikan kontribusi bagi kajian manajemen pendidikan Islam dengan menempatkan transformasi digital sebagai kapabilitas organisasi yang penting dalam memperkuat efektivitas kelembagaan, sekaligus menunjukkan bahwa kepemimpinan digital memerlukan dukungan kondisi organisasi lainnya agar mampu menghasilkan dampak yang terukur.

Kata Kunci: Transformasi Digital; Kepemimpinan Digital; Efektivitas Organisasi; Madrasah; Manajemen Pendidikan Islam.

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1. INTRODUCTION

The rapid development of digital technology has encouraged educational institutions to transform the way they manage academic, administrative, and organizational activities (Ichsan & Susanti, 2025; Kayanja et al., 2025). Madrasahs, as Islamic educational institutions, are also facing increasing demands to adapt to digital transformation (Abrori & Hadi, 2020; Haningsih et al., 2026). Digital platforms are increasingly used for academic administration, communication, learning management, data management, and institutional decision-making (Haleem et al., 2022; Raina et al., 2026). However, digital transformation is not simply a matter of adopting new technologies. Its success depends on the institution's ability to integrate technology into organizational processes, develop human resources, and create leadership practices that can direct digital change effectively.

Organizational effectiveness is an important indicator of the success of digital transformation in madrasahs (Dinata et al., 2026; Dinata Feri Riski et al., 2025; Dwi Novianti, 2026). An effective madrasah is not only able to achieve educational objectives but also provides quality services, manages resources efficiently, responds to environmental changes, and continuously improves its organizational practices (Afin Nida Al Hasanah et al., 2026; Kuswadi et al., 2026; Zaenal Arifin, Luthfi Assegaf, 2026). Digital transformation can potentially strengthen these dimensions by improving information accessibility, accelerating administrative processes, facilitating

communication, and supporting data-based decision-making (Fahmi Husein, Moh Solikul Hadi, 2024; Kuswadi et al., 2026). Nevertheless, the availability of digital technology does not automatically produce organizational effectiveness. The transformation process requires appropriate leadership to translate technological opportunities into organizational strategies and practices.

Previous studies have demonstrated that digital transformation can contribute to organizational performance, innovation, efficiency, and adaptability in educational institutions. Other studies have emphasized the importance of digital leadership in guiding institutions through technological change (Setiawan & Khiyaroh, 2022; Suparman et al., 2025). Digital leaders are expected to formulate a clear digital vision, encourage technology adoption, facilitate organizational innovation, and develop the digital capabilities of teachers and staff (Aboubacar Barry et al., 2025; Ichsan & Susanti, 2025; Xin et al., 2025). These findings suggest that digital leadership may represent an important mechanism through which digital transformation is converted into improved organizational outcomes.

Despite these findings, an important research gap remains. Previous research has frequently examined digital transformation and organizational effectiveness as a direct relationship, while other studies have focused on digital leadership as an independent factor influencing organizational performance (Aboubacar Barry et al., 2025; Roblek et al., 2021). Relatively limited attention has been given to the mediating role of digital leadership in explaining how digital transformation contributes to organizational effectiveness, particularly in the context of madrasahs (Bauwens & Cortellazzo, 2025; Kayanja et al., 2025). This gap is important because digital transformation may provide technological resources and organizational changes, but leadership determines how these changes are strategically directed, coordinated, and implemented within the institution.

Based on this gap, this study aims to examine the effect of Digital Transformation on Organizational Effectiveness in madrasahs and investigate the mediating role of Digital Leadership. The study specifically seeks to determine whether digital transformation directly improves organizational effectiveness and whether this effect becomes stronger through effective digital leadership. The novelty of this study lies in developing an integrated mediation model that positions Digital Leadership as a mechanism connecting Digital Transformation with Organizational Effectiveness in madrasahs. Rather than treating technology adoption and leadership as separate organizational factors, this study explains how digital transformation can be translated into institutional effectiveness through leadership capacity. The study therefore contributes to the literature on Islamic educational management by providing an empirical perspective on how madrasahs can strategically manage digital transformation to strengthen organizational effectiveness while maintaining their distinctive educational and Islamic institutional characteristics.

2. RESEARCH METHODS

This study employed a quantitative approach with an explanatory research design to examine the relationship between Digital Transformation, Digital Leadership, and Organizational Effectiveness in madrasahs (Roblek et al., 2021; Stadtländer, 2009). The study specifically investigated the direct

effect of Digital Transformation on Organizational Effectiveness and the indirect effect through Digital Leadership as a mediating variable.

The study involved teachers and educational staff working in madrasahs. Respondents were selected using purposive sampling, with the criteria that participants were actively involved in academic or administrative activities and had experience with the implementation of digital technologies in their institutions. Data were collected using a structured questionnaire based on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire consisted of three main constructs (Ghanad, 2023; Gurbuz, n.d.). Digital Transformation (DT) was measured through indicators related to digital technology adoption, digitalization of administrative processes, digital communication, integration of digital systems, and institutional adaptation to technological change. Digital Leadership (DL) was measured through indicators reflecting digital vision and strategy, technological support, digital communication, innovation facilitation, and leaders' ability to manage digital change. Organizational Effectiveness (OE) was measured through indicators related to achievement of institutional objectives, quality of educational and administrative services, resource efficiency, organizational adaptability, and the effectiveness of institutional decision-making.

Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) (Hair et al., 2014; Joseph F. Hair, n.d.). The analysis consisted of two stages. First, the measurement model (outer model) was assessed to establish indicator reliability and construct validity. Indicator reliability was evaluated using outer loading values, while internal consistency was examined using Cronbach's Alpha and Composite Reliability. Convergent validity was assessed using the Average Variance Extracted (AVE), while discriminant validity was evaluated using the Heterotrait–Monotrait (HTMT) ratio. Indicators that did not meet the recommended criteria were evaluated carefully and removed only when theoretically justified.

Second, the structural model (inner model) was examined to assess the hypothesized relationships among Digital Transformation, Digital Leadership, and Organizational Effectiveness. The evaluation included path coefficients (β), coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and variance inflation factor (VIF). The significance of direct relationships was assessed using bootstrapping procedures based on t-statistics and p-values at a 5% significance level.

The mediating role of Digital Leadership was examined by testing the indirect effect of Digital Transformation on Organizational Effectiveness through Digital Leadership. Mediation was assessed using the bootstrapping method by examining the indirect path coefficient, t-statistic, p-value, and confidence interval. A significant indirect effect indicated that Digital Leadership functioned as a mediator. The relationship between the direct and indirect effects was further examined to determine whether the mediation was partial or full.

The proposed structural model was formulated as Digital Transformation → Digital Leadership → Organizational Effectiveness, with an additional direct path from Digital Transformation to Organizational Effectiveness. This model enables the study to explain not only whether digital transformation contributes to organizational effectiveness but also whether digital leadership

serves as an organizational mechanism through which digital transformation is translated into improved effectiveness in madrasahs.

3. RESULTS AND DISCUSSION

The study involved 78 respondents from madrasahs. The analysis examined three main constructs: Digital Transformation (DT) as the independent variable, Digital Leadership (DL) as the mediating variable, and Organizational Effectiveness (OE) as the dependent variable. The descriptive results indicate that all three constructs were perceived positively by respondents. The mean scores indicate that respondents generally perceived digital transformation, digital leadership, and organizational effectiveness at a moderate-to-high level. Organizational Effectiveness obtained the highest mean score (3.276), followed by Digital Transformation (3.272) and Digital Leadership (3.256). The internal consistency analysis produced Cronbach's Alpha values of 0.698 for Digital Transformation, 0.707 for Digital Leadership, and 0.665 for Organizational Effectiveness. The results indicate acceptable reliability for Digital Leadership and marginally acceptable reliability for Digital Transformation and Organizational Effectiveness in an exploratory context.

However, the item-level analysis shows that indicator quality varies across constructs. The strongest corrected item-total correlations were observed for DT7 (0.487) and DT1 (0.410) for Digital Transformation, DL3 (0.407) for Digital Leadership, and OE7 (0.459) and OE1 (0.418) for Organizational Effectiveness. Several other indicators demonstrated relatively weak correlations with their respective constructs. Therefore, the measurement model should be further evaluated using outer loading, Composite Reliability, AVE, and HTMT before being considered fully validated.

The correlation analysis reveals a distinctive pattern among the three variables. Digital Transformation has a very strong positive correlation with Organizational Effectiveness ($r = 0.955$). Meanwhile, its relationship with Digital Leadership is considerably weaker ($r = 0.292$). Digital Leadership also has a relatively weak correlation with Organizational Effectiveness ($r = 0.290$). These results provide an initial indication that the direct relationship between Digital Transformation and Organizational Effectiveness is substantially stronger than the relationships involving the proposed mediator.

The first structural relationship examined whether Digital Transformation predicts Digital Leadership. The standardized path coefficient was approximately $\beta = 0.292$. The relationship was statistically significant at the 5% level, with $t = 2.663$ and $p = 0.009$. The corresponding R^2 value for Digital Leadership was 0.085, indicating that Digital Transformation explains approximately 8.5% of the variance in Digital Leadership. Although the relationship is statistically significant, its explanatory power is relatively limited. This suggests that digital transformation may contribute to the development of digital leadership, but leadership practices are also influenced by other factors such as leadership experience, organizational culture, professional development, institutional policies, and individual leadership capabilities.

The second structural relationship examined the effect of Digital Leadership on Organizational Effectiveness while controlling for Digital Transformation. The standardized coefficient for Digital Leadership was approximately $\beta = 0.012$, with $t = 0.328$ and $p = 0.744$. The result indicates that Digital Leadership does not have a statistically significant unique effect on Organizational Effectiveness after Digital Transformation is included in the model. Although the bivariate correlation between the two constructs is positive ($r = 0.290$), its unique contribution becomes negligible when Digital Transformation is simultaneously considered. This finding is important because it indicates that the positive association between Digital Leadership and Organizational Effectiveness observed at the bivariate level does not translate into a significant independent structural effect in the complete mediation model.

The strongest finding concerns the direct relationship between Digital Transformation and Organizational Effectiveness. The standardized path coefficient was approximately $\beta = 0.951$, with $t = 26.460$ and $p < 0.001$. This indicates a very strong and statistically significant direct effect. The model produced an R^2 value of 0.911 for Organizational Effectiveness, indicating that approximately 91.1% of the variance in Organizational Effectiveness is explained by Digital Transformation and Digital Leadership in the structural model. However, because the coefficient for Digital Leadership is statistically insignificant, most of this explanatory power is attributable to Digital Transformation.

This finding demonstrates that digital transformation is a highly important factor associated with organizational effectiveness in the observed madrasahs. The implementation of digital systems, technology integration, digital communication, and digitalized organizational processes appears to be closely connected with the ability of madrasahs to achieve institutional objectives and improve their organizational performance.

The mediation analysis provides a particularly important finding. The indirect effect of Digital Transformation on Organizational Effectiveness through Digital Leadership was approximately $\beta = 0.003$, calculated from the product of the two relevant paths (0.292×0.012). Because the Digital Leadership $\rightarrow$ Organizational Effectiveness path is not statistically significant, there is insufficient evidence that Digital Leadership mediates the relationship between Digital Transformation and Organizational Effectiveness. Therefore, the proposed mediation hypothesis is not supported by the current data. Digital Transformation appears to influence Organizational Effectiveness primarily through a direct pathway, rather than through Digital Leadership.

Overall, the findings reveal that Digital Transformation is the dominant predictor of Organizational Effectiveness in the observed madrasahs. Digital Transformation has a significant positive relationship with Digital Leadership, but Digital Leadership does not provide a significant additional contribution to Organizational Effectiveness when Digital Transformation is controlled. Consequently, Digital Leadership does not function as a significant mediator in the current model.

The findings suggest that the organizational benefits of digital transformation may arise more directly from the implementation and integration of digital technologies into institutional processes than from leadership mechanisms alone. Digitalization of administration, communication, information management, and organizational processes may directly improve efficiency, coordination, responsiveness, and institutional performance. At the same time, the relatively weak

explanatory power of Digital Transformation for Digital Leadership ($R^2 = 0.085$) indicates that the development of digital leadership requires additional organizational and individual factors beyond technological transformation itself.

These findings provide an important empirical basis for the subsequent discussion because they partially confirm the proposed conceptual model. The direct effect of Digital Transformation on Organizational Effectiveness is strongly supported, while the proposed mediating role of Digital Leadership is not supported. Rather than weakening the study, this unexpected finding provides an opportunity to develop a more critical contribution concerning the conditions under which digital leadership can function as an effective mechanism in madrasah digital transformation.

The PLS-SEM model shows that Digital Transformation (DT) has a positive and significant effect on Digital Leadership (DL) ($\beta = 0.292$; $t = 2.663$; $p = 0.009$). However, Digital Leadership does not have a significant effect on Organizational Effectiveness (OE) ($\beta = 0.012$; $t = 0.328$; $p = 0.744$). The strongest relationship is the direct effect of Digital Transformation on Organizational Effectiveness ($\beta = 0.951$; $t = 26.460$; $p < 0.001$), with $R^2 = 0.911$, indicating that 91.1% of the variance in OE is explained by the model. The indirect effect of DT on OE through DL is only $\beta = 0.003$ and is not significant. Thus, Digital Leadership does not mediate the relationship between Digital Transformation and Organizational Effectiveness.

Discussion

The findings of this research provide important insights into the development of PAI teacher competencies through a performance-based approach. The results demonstrate that systematic, contextually-grounded competency development can significantly improve teacher competencies across all domains, particularly in pedagogical and professional areas. This discussion situates these findings within the broader literature on teacher competency development in Islamic education and considers their implications for policy and practice.

The findings of this study demonstrate that Digital Transformation has a strong and positive effect on Organizational Effectiveness in madrasahs. The direct path coefficient of $\beta = 0.951$, with $t = 26.460$ and $p < 0.001$, indicates that Digital Transformation is the strongest predictor of Organizational Effectiveness in the proposed model. The R^2 value of 0.911 further indicates that approximately 91.1% of the variance in Organizational Effectiveness can be explained by Digital Transformation and Digital Leadership, although the insignificant contribution of Digital Leadership means that most of this explanatory power is attributable to Digital Transformation. This finding confirms that digital transformation is not merely a technological process but has become an important organizational mechanism for improving institutional effectiveness through more efficient administrative processes, better communication, information accessibility, and data-supported decision-making.

This finding is consistent with the Resource-Based View (RBV), which conceptualizes technological resources and organizational capabilities as strategic resources that can generate sustainable organizational value when they are effectively integrated into institutional processes. From this perspective, digital transformation becomes valuable when technological resources are

embedded within organizational routines and capabilities rather than simply acquired as infrastructure. The strong relationship found in this study suggests that madrasahs that are more capable of integrating digital systems into their organizational activities are also more capable of achieving institutional objectives, improving services, and adapting to environmental changes. This interpretation is also consistent with research on educational administration showing that digital transformation involving infrastructure, human resources, and organizational culture contributes to improved administrative performance.

The finding also supports previous research concerning the relationship between digital transformation and organizational performance in education. A systematic review of 183 publications on digital transformation and organizational performance in higher education demonstrated the growing importance of this relationship in contemporary educational management research. Similarly, research examining digital transformation and performance in state higher education institutions emphasized that digital transformation, leadership, and institutional performance are increasingly interconnected dimensions of organizational change. Therefore, the present finding supports previous research by demonstrating that the positive contribution of digital transformation to organizational outcomes is also evident in the more specific context of madrasahs.

An important finding emerges from the relationship between Digital Transformation and Digital Leadership. The path coefficient of $\beta = 0.292$, with $t = 2.663$ and $p = 0.009$, indicates a positive and statistically significant relationship. However, the R^2 value for Digital Leadership is only 0.085, meaning that Digital Transformation explains approximately 8.5% of the variance in Digital Leadership. This finding suggests that digital transformation may encourage the emergence and development of digital leadership practices, but technological transformation alone is insufficient to explain leadership capability. Digital leadership is also likely to depend on leaders' competencies, organizational culture, professional development, institutional policies, strategic vision, and previous experience with technology.

This finding is consistent with recent empirical evidence. A 2026 study involving schools in Abu Dhabi found that digital leadership significantly influenced digital transformation and teachers' technology integration, positioning digital leadership as a strategic organizational resource for technology-driven change. Similarly, research in Kuwait demonstrated that principals' digital leadership positively influenced teachers' technology integration, particularly through visionary leadership and the effective use of digital resources. These studies generally place digital leadership as an important driver of digital transformation, whereas the present study finds the relationship in the opposite direction: Digital Transformation significantly predicts Digital Leadership. Thus, the finding partially supports the previous literature but also extends it by suggesting that the relationship may be reciprocal rather than exclusively one-directional.

The most unexpected result concerns the relationship between Digital Leadership and Organizational Effectiveness. Although the bivariate correlation between the two constructs is positive, the structural path becomes very weak after Digital Transformation is included in the model, with $\beta = 0.012$, $t = 0.328$, and $p = 0.744$. This means that Digital Leadership does not have a statistically significant unique effect on Organizational Effectiveness in the present model. This

finding does not support a substantial body of previous research that identifies digital leadership as an important determinant of school effectiveness. For example, a recent meta-analysis synthesizing 11 empirical studies across six countries reported a significant positive relationship between digital leadership and school effectiveness, with a pooled correlation of $r = 0.672$. Likewise, a 2026 structural equation modeling study in rural schools examined digital leadership as an important factor in school effectiveness, emphasizing the relevance of leadership in contexts facing infrastructural and contextual challenges.

The difference between the present finding and previous studies can be explained by the simultaneous inclusion of Digital Transformation in the structural model. In the present data, Digital Transformation has an exceptionally strong direct relationship with Organizational Effectiveness ($\beta = 0.951$). Once this dominant predictor is controlled, Digital Leadership contributes very little additional explanatory power. This does not necessarily mean that digital leadership is unimportant. Rather, it suggests that in the observed madrasahs, the effectiveness associated with digitalization may be captured more directly by the actual implementation of digital systems and organizational processes than by leadership perceptions. In other words, leadership may create the conditions for transformation, but the organizational outcomes become more immediately visible through the transformation itself.

This interpretation provides an interesting contrast with recent research showing that digital leadership, strategic vision, professional development, teacher support, organizational readiness, and infrastructure jointly contribute to successful digital transformation and educational effectiveness. The present study therefore does not completely reject the importance of digital leadership, but rather suggests that its effect may be context-dependent and may not always appear as a direct predictor when the degree of digital transformation is already very high. This distinction is particularly relevant for madrasahs, where institutional effectiveness may depend strongly on the extent to which digital systems have already been embedded in administration, communication, learning management, and organizational decision-making.

The mediation analysis provides further evidence for this interpretation. The indirect effect of Digital Transformation on Organizational Effectiveness through Digital Leadership is approximately $\beta = 0.003$, indicating a negligible indirect contribution. Because the Digital Leadership $\rightarrow$ Organizational Effectiveness path is not significant, the proposed mediation hypothesis is not supported. Thus, Digital Leadership does not mediate the relationship between Digital Transformation and Organizational Effectiveness in the present study. This finding contrasts with models in which leadership is assumed to be the mechanism through which digital change generates organizational outcomes. Instead, the current evidence indicates that the relationship is predominantly direct.

The non-significant mediation is theoretically meaningful. From the perspective of Digital Leadership Theory, effective digital leadership is expected to provide strategic vision, mobilize resources, facilitate innovation, and support technology integration. However, leadership practices may only translate into organizational effectiveness when accompanied by other organizational capabilities, such as teacher digital competence, organizational readiness, digital culture, infrastructure, or technology integration. Recent research in schools similarly highlights that

strategic vision, teacher support, professional development, organizational readiness, and infrastructure are important conditions for converting digital leadership into effective technology integration and educational outcomes. Therefore, the absence of mediation in this study may indicate that Digital Leadership alone is insufficient to serve as the connecting mechanism between transformation and effectiveness.

The findings consequently provide a refinement rather than a rejection of existing theories. The RBV perspective is strongly supported because Digital Transformation demonstrates a substantial contribution to Organizational Effectiveness. Digital Leadership Theory is only partially supported because Digital Transformation significantly relates to Digital Leadership, but Digital Leadership does not independently predict Organizational Effectiveness after Digital Transformation is considered. The study therefore suggests that digital leadership should be understood as part of a broader organizational capability system rather than as an isolated determinant of effectiveness.

The main novelty of this study lies in demonstrating that, within the observed madrasah context, Digital Transformation has a substantially stronger direct relationship with Organizational Effectiveness than the proposed leadership mechanism. This finding challenges the assumption that digital leadership necessarily acts as the central mediator of digital transformation outcomes. Instead, the study indicates that the organizational impact of digital transformation may depend more directly on the extent to which digital technologies have been integrated into institutional processes. This provides a contextual contribution to Islamic educational management research, where empirical studies examining the interaction between digital transformation, digital leadership, and organizational effectiveness remain relatively limited.

Overall, the study supports the positive role of Digital Transformation in strengthening Organizational Effectiveness and supports the relationship between Digital Transformation and Digital Leadership, but does not support the hypothesized direct effect of Digital Leadership on Organizational Effectiveness or its mediating role. The results therefore suggest that madrasah leaders should not focus solely on developing digital leadership competencies but should ensure that leadership is accompanied by concrete digital transformation strategies, adequate infrastructure, organizational readiness, and systematic integration of technology into institutional processes. In this sense, the effectiveness of digital transformation in madrasahs appears to be determined less by the existence of digital leadership alone and more by the institution's capacity to convert digital transformation into functioning organizational practices.

4. CONCLUSION

This study concludes that Digital Transformation has a strong and significant positive effect on Organizational Effectiveness in madrasahs. The direct effect of Digital Transformation on Organizational Effectiveness is very strong ($\beta = 0.951$; $t = 26.460$; $p < 0.001$), indicating that the implementation and integration of digital technology are closely associated with improved institutional effectiveness. Digital Transformation also has a positive and significant effect on Digital Leadership ($\beta = 0.292$; $t = 2.663$; $p = 0.009$), although its explanatory contribution to Digital Leadership remains relatively limited.

In contrast, Digital Leadership does not have a significant direct effect on Organizational Effectiveness when Digital Transformation is included in the structural model ($\beta = 0.012$; $t = 0.328$; $p = 0.744$). Consequently, Digital Leadership does not significantly mediate the relationship between Digital Transformation and Organizational Effectiveness, as indicated by the very small indirect effect ($\beta = 0.003$). These findings indicate that the organizational benefits of digital transformation in the observed madrasahs occur predominantly through a direct pathway rather than through Digital Leadership as a mediating mechanism.

The study contributes to Islamic educational management literature by demonstrating that the effectiveness of digital transformation in madrasahs is strongly associated with the extent to which digital technologies are integrated into organizational processes. The findings support the Resource-Based View by positioning digital transformation as an organizational capability that can generate institutional value. At the same time, the non-significant mediation indicates that digital leadership should not be considered in isolation but as part of a broader system involving organizational readiness, infrastructure, human-resource capability, and digital culture.

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