

Development of a Digital-Spiritual Leadership Model for School Principals to Improve Work Engagement and Teacher Performance in the Era of Educational Transformation

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ABSTRACT

The educational transformation marked by the integration of digital technology into the learning process and school governance requires principals to develop leadership models that are adaptive to the dynamics of the times without abandoning their foundation in spiritual values. Challenges in the technological era are not solely related to technical skills in operating digital devices, but also to the capacity to build a meaningful work culture, uphold integrity, and be oriented towards the quality of educational services. This research aims to develop and validate the Digital-Spiritual Leadership model for principals as a strategy to improve work engagement and teacher performance. The method applied is Research and Development (R&D) with stages of needs analysis, conceptual design, expert validation, limited trials, and comprehensive testing of the model's effectiveness. Data were obtained through questionnaires, in-depth interviews, and document reviews. Then, they were analyzed descriptively quantitatively with the help of tables and graphs to map changes in teacher engagement and performance indicators. The results show a significant increase in the dimensions of work enthusiasm, professional commitment, and active involvement in carrying out tasks after the model's implementation. In addition, the quality of lesson planning, innovation in pedagogical practices, and achievement of performance targets showed an increasing trend. The analysis of the discussion confirms that integrating digital competencies with strengthening spiritual values creates inspiring leadership that has a broad impact on the school system. Therefore, the resulting Digital-Spiritual Leadership model is deemed relevant and effective in strengthening work engagement and improving teacher performance in the context of educational transformation.

Keywords: Spiritual Leadership, Educational Transformation, Work Engagement

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. Global changes in the 21st century have triggered significant shifts in various areas of life, including the education sector, which is now required to be increasingly adaptive, creative, and responsive to social developments and technological advances. Educational transformation is no longer simply defined as curriculum revision, but encompasses a comprehensive update to school management paradigms, the dynamics of learning interactions, and performance assessment systems based on data and empirical evidence. The digitalization movement has become an integral part of contemporary educational practices, marked by the use of Learning Management Systems, online collaborative platforms, and the strengthening of information technology-based administrative governance. This situation requires educational institutions to make both structural and cultural adjustments to stay in line with the demands of today's developments (CC Chen, 2025).

Schools, as learning organizations, need to create an environment that encourages innovation without neglecting fundamental educational values. Within this framework, the principal holds a strategic position as the primary driver of institutional change. Quality leadership focuses not only on achieving administrative indicators but also on establishing a productive, collaborative, and sustainable work culture (Lara, 2025). Therefore, the need for a leadership model that aligns with the characteristics of the transformation era is becoming increasingly urgent. The dynamics of rapid change demand a combination of technological competence and deep moral values. The synergy of these two aspects is a crucial foundation for formulating visionary and future-oriented school policies. Thus, the development of a contextual leadership model is gaining increasing legitimacy in the discourse of modern educational management (Jiao, 2025).

Changes in the education system, marked by the use of digital technology in learning activities and school management, require school principals to formulate leadership patterns that are responsive to current developments without neglecting the foundation of spiritual values. Challenges in the digital era focus not only on technical skills in operating technological devices and systems, but also include the capacity to build a work culture that is meaningful, based on integrity, and oriented towards improving the quality of educational services (Jones, 2025). In practice, principals face the complexities of data-driven decision-making while simultaneously being responsible for character development for the entire school community. Digital literacy is a crucial prerequisite for designing innovative and adaptive policies. However, the spiritual dimension continues to serve as a moral compass, ensuring that the change process remains grounded in human values (Sun, 2025).

The imbalance between technological orientation and spiritual depth risks producing mechanistic or, conversely, visionary leadership. Therefore, a leadership model is needed that can synergize both aspects in a balanced way. This synergy is believed to strengthen ethical legitimacy while increasing the principal's managerial effectiveness. (Sorrenti, 2025) Leadership that integrates digital competency with the internalization of spiritual values has the potential to create a conducive and productive work climate. This situation serves as an important foundation for fostering teacher commitment and loyalty to the school organization. Thus, the concept of Digital-Spiritual Leadership has both theoretical and practical significance in addressing the challenges of contemporary education (Tavares, 2025).

The performance of teachers as the primary implementers of the learning process is largely determined by the effectiveness of the principal's leadership. In carrying out their professional roles, teachers need more than just technical guidance; they also need psychological support and moral encouragement that can foster meaning in their work. The degree of work engagement is a crucial benchmark that reflects a teacher's energy, commitment, and active involvement in their duties (Talaftian, 2025). Teachers with high levels of engagement generally demonstrate creativity, a sense of responsibility, and perseverance in realizing learning objectives. Conversely, low levels of work engagement can potentially decrease motivation and impact the quality of the learning process and outcomes. In the context of digital transformation, administrative burdens and demands for technological mastery often burden teachers' professional responsibilities. If this situation is not balanced by leadership that provides meaningful support and direction, the risk of burnout increases. Therefore, efforts to increase work engagement must be aligned with the implementation of effective leadership strategies (Strittmater, 2025). Principals are required to develop coaching mechanisms, motivate communication, and internalize collective values within the school environment. Integrating technological competency with strengthening the spiritual dimension is believed to strengthen teachers' intrinsic motivation. Therefore, developing a leadership model that simultaneously encourages work engagement and improved performance is an urgent need in this era of educational change (Da'as, 2025).

Conceptually, digital leadership refers to a leader's capacity to optimize the use of technology to improve organizational performance and effectiveness. Spiritual leadership, on the other hand, emphasizes creating meaning in work, strengthening altruistic values, and building a commitment grounded in morality. Although both approaches make important

contributions to the development of educational management, previous studies have tended to discuss them separately. However, the dynamics of contemporary educational transformation demand an integration of both to create a comprehensive and balanced leadership model (Pfeiffer, 2025).

The significance of this research is further strengthened when linked to the national education quality improvement agenda, which focuses on sustainability. The educational transformation process will not be optimal without leadership capable of optimizing the full potential of human resources within the school environment. As the driving force of change, principals need to possess a visionary digital orientation and a depth of spiritual values in their teacher development (Lobo-De-Diego, 2025). The combination of these two aspects is believed to be able to build a collaborative, creative, and integrity-based work culture. Increasing the level of work engagement is a key factor in driving higher-quality teacher performance. Therefore, the design of the Digital-Spiritual Leadership model is positioned not only as a theoretical development, but as a strategic necessity in modern education management. This model is expected to serve as a reference for policymakers and education practitioners in responding to the dynamics of change. Conceptually, this research contributes through the integration of two leadership paradigms that have tended to be separated, while practically impacting the quality of teacher work (Rokoguniwai, 2025).

Thus, this study has a high level of relevance in addressing the challenges of today's educational transformation. The implementation of digitalization without a foundation of spiritual values has the potential to produce a work orientation that is technocratic and less humanistic. Conversely, strengthening spirituality without being balanced with digital literacy skills can limit the power of innovation and institutional efficiency. Therefore, the synthesis of these two perspectives offers a more holistic framework. The Digital-Spiritual Leadership model is constructed as an integrative form that positions technology as a strategic tool and spirituality as a core leadership value. This integration is believed to be able to strengthen the direction of school policies in responding to dynamic changes. In addition to encouraging the achievement of performance targets, the model is also oriented towards the formation of character and an organizational culture of integrity. Therefore, this integrative framework serves as the main theoretical foundation for the implementation of development research conducted (Hart, 2025).

Several previous studies have confirmed that leadership plays a crucial role in driving improved teacher performance in school settings Fisseha, (2025) revealed that digital leadership has a significant impact on strengthening learning innovation, even though it has not yet included spirituality as part of its conceptual framework Zhou, (2025) shows that spiritual leadership contributes to increased organizational commitment and teacher job satisfaction, but has not explicitly linked it to the demands of adapting to digital technology. Meanwhile, research Wu, (2025) analyzed the relationship between transformational leadership and work engagement, but have not yet developed a product-based model tested through a Research and Development (R&D) approach. Unlike these studies, this study emphasizes the comprehensive integration of digital competence and the internalization of spiritual values into a unified leadership construct. This research is not limited to testing the relationship between variables, but includes the process of designing and validating the model empirically. The use of R&D methods complemented by table- and graph-based analysis further strengthens the practical and implementative dimensions of the research. Therefore, this study presents new contributions both conceptually and methodologically compared to previous studies. The integration of Digital-Spiritual Leadership is expected to fill the theoretical gap while addressing practical needs in educational leadership development.

METHODS

This study employs a Research and Development (R&D) method aimed at designing and testing the effectiveness of a Digital-Spiritual Leadership-based leadership model. This approach was chosen based on the consideration that R&D can produce conceptual products that are not only theoretical but also applicable in school management practices. The initial

stage of the research began with a needs analysis to map real-world issues related to principal leadership practices, levels of work engagement, and teacher performance in the context of educational transformation. The needs identification process was conducted through a preliminary study of several schools, taking into account organizational characteristics, digital infrastructure readiness, and evolving work cultures. The findings at this stage served as the primary foundation for developing a conceptual framework for a model that integrates digital competency with the internalization of spiritual values (Ortega-Jiménez, 2025).

Next, a structured model design was developed, encompassing key dimensions, operational indicators, and measurable implementation strategies. The initial design was then validated by educational management experts and leadership practitioners to ensure theoretical relevance and contextual suitability. Validation included evaluating the appropriateness of the content, clarity of the constructs, and the potential for application in the field. Based on the experts' recommendations, refinements were made to the initial design to make it more comprehensive and implementable. Through this series of stages, the resulting model has a strong conceptual foundation and empirical support. Thus, the R&D approach enabled this research to produce leadership innovations that are both academically tested and feasible for practical application (Sha'Ar, 2025).

After the model was declared valid by experts, the next stage was a limited trial to assess the model's practicality and applicability in the field. Participants in the trial were selectively selected, taking into account the school's readiness to implement digital-based transformation. Researchers conducted direct observations of the model's implementation in the principal's daily leadership activities. Before the model was implemented, an initial assessment was conducted to map the level of work engagement and teacher performance as baseline data for the research (Johannesson, 2025). Next, the Digital-Spiritual Leadership model is implemented over a specific period of time, accompanied by mentoring and monitoring. After the implementation period ends, a follow-up evaluation is conducted through final measurements to identify changes in each established indicator. Comparisons between initial and final data serve as a basis for empirically determining the model's effectiveness. A comprehensive analysis of the results is conducted to identify strengths and areas requiring improvement. This stage confirms that the model not only has theoretical validity but also demonstrates successful implementation in the school environment. Therefore, limited trials play a strategic role in the overall model development process (Berrezueta-Guzman, 2025).

The data collection process was carried out by combining questionnaires, in-depth interviews, and documentation reviews to obtain comprehensive and integrated information. The questionnaire was systematically designed to measure aspects of work engagement and teacher performance indicators based on predetermined constructs. In-depth interviews were conducted to explore participants' perspectives, experiences, and responses to the implementation of the developed model. Meanwhile, supporting documents were used as verification materials to strengthen empirical findings in the field. All research instruments were first tested for validity and reliability to ensure they were suitable for use in data collection (W. Chen, 2025). Data collection was carried out in a planned manner during the pre-implementation and post-implementation phases of the model. The application of triangulation techniques was intended to increase the level of validity and consistency of research results. This strategy provided space for more comprehensive and precise analysis. With this approach, the resulting data were able to represent factual conditions objectively. Therefore, the research findings have a strong empirical basis to support the process of drawing conclusions (Kyriazopoulou, 2025).

RESULT AND DISCUSSION

The research findings began with a presentation of the expert assessment of the developed Digital-Spiritual Leadership model. The validation process involved three academics in the field of educational management and two school principals as practitioners to evaluate the feasibility of the substance, the integrity of the construction, and the potential for application of the model. Based on this evaluation, the model was rated "very valid" with an

average score of 4.62 on a scale of 1-5. The validators assessed that the combination of digital competencies and spiritual values had been formulated in a structured manner and could be operationalized in a school context. Several recommendations were made, particularly regarding the simplification of implementation indicators for easier application in practice. Improvements focused on strengthening inspirational communication aspects and developing a collaborative work culture. Overall, the experts stated that this model aligns with the demands of current educational transformation. These results confirmed that the model design has met the criteria for conceptual feasibility. Therefore, the model is considered suitable for entering the limited trial phase. This validation process serves as an important stepping stone for continuing the next, more comprehensive development phase.

Table 1. Expert Validation Results of the Digital-Spiritual Leadership Model

Rated aspect	Average Score	Category
Content Eligibility	4.70	Very Valid
Model Construction	4.55	Very Valid
Implementation Applicability	4.60	Very Valid
Average Total	4.62	Very Valid

The next stage was a limited trial conducted in two schools, involving 30 teachers and two principals as research subjects. In this phase, a pre-test was conducted to obtain an overview of the level of work engagement and teacher performance before the model was implemented. The initial measurement results showed that the average work engagement score was in the moderate category at 68.4%. Meanwhile, teacher performance in the aspects of lesson planning and pedagogical innovation was still considered suboptimal. Next, the Digital-Spiritual Leadership model was implemented for three months with intensive mentoring support and regular evaluations. After the implementation period ended, a final measurement (post-test) was conducted to assess the changes that occurred. The analysis results showed a significant increase in all measured indicators. The average work engagement score increased to 82.7%, while teacher performance reached 85.1%. These findings confirm that the implementation of the model has a positive impact on increasing teacher work motivation and professional performance. Thus, the results of the limited trial indicate that the model is not only practical to implement but also has promising effectiveness.

Table 2. Comparison of Pre-test and Post-test Scores

Indicator	Pre-test (%)	Post-test (%)	Improvement
Work Engagement	68.4	82.7	+14.3
Teacher Performance	70.2	85.1	+14.9

A comprehensive evaluation of the model's effectiveness was conducted by examining increases in three key dimensions of work engagement: vigor, dedication, and absorption. Vigor increased from 67% to 83%. Professional commitment (dedication) increased from 69% to 84%. Total involvement in task performance (absorption) increased from 68% to 81%. These quantitative findings indicate that the model's implementation not only boosts motivation but also strengthens teachers' commitment and focus in carrying out their responsibilities. The graphical visualization shows a stable and continuous increase in each dimension. This positive trend aligns with the strengthening of leadership that integrates spiritual values and digital literacy competencies. In aggregate, the model's effectiveness can be categorized as high. These results confirm that the integration of digital and spiritual dimensions in leadership can have a broad and systemic impact on school organizational performance.

Table 3. Improvement in Work Engagement Dimensions

Dimensions	Before (%)	After (%)
Vigor	67	83
Dedication	69	84
Absorption	68	81

In addition to quantitative findings, interview data revealed perceived changes in communication patterns and the support provided by the principal. Most respondents considered the leadership style more inspiring and open to greater participation. Teachers felt more tangible appreciation and encouragement to develop innovations in digital technology-based learning. The principal was also perceived as more intense in providing value-based coaching and spiritual reflection. This contributed to a more harmonious, supportive, and collaborative work climate. Interview results indicated that the integration of spiritual values provided a deeper understanding of the teacher's professional role. Respondents also expressed an increase in intrinsic motivation after the model was implemented. These qualitative findings align with the quantitative analysis, which showed a significant increase in teacher work engagement and performance. Thus, the application of method triangulation confirms the consistency and reliability of the overall research results.

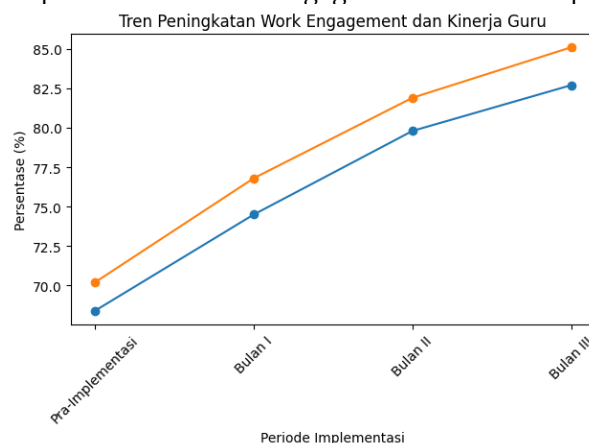
Table 4. Summary of Teacher Interview Results

Aspect	Key Findings
Communication	More open and inspiring
Digital Support	Training and mentoring increased
Spiritual Values	Strengthening the meaning of work and integrity
Work motivation	Increased significantly

In terms of teacher performance, the quality of lesson planning significantly improved after the model's implementation. Teachers demonstrated more structured skills in designing technology-integrated learning tools. Pedagogical creativity also developed through the use of interactive and innovative digital media. Furthermore, the realization of school performance targets showed an increasingly positive trend. Performance graph visualizations revealed a consistent growth pattern throughout the implementation period. The principal was also intensively involved in the supervision process and provided constructive feedback. The work environment became more conducive and supported the development of teachers' creative ideas. This condition confirms the positive correlation between leadership effectiveness and improved professional performance. Performance improvements were not only evident in administrative aspects but also reflected in the quality of classroom learning. Thus, the implementation of the Digital-Spiritual Leadership model has made a substantial contribution to improving the overall quality of education.

To provide a more comprehensive understanding of the effectiveness of the model's implementation, data on improvements in work engagement and teacher performance are presented in line graphs. This visualization aims to more clearly demonstrate the dynamics of change occurring during the Digital-Spiritual Leadership implementation process, allowing for a coherent and measurable understanding of the direction and trend of improvement. The graph allows for simultaneous monitoring of the relationship between the two variables, from the pre-implementation phase through the third month of implementation. This presentation not only complements the quantitative information contained in the table but also serves as an analytical tool to demonstrate the model's consistent influence on both the psychological and professional dimensions of teacher performance.

Graph 1. Level of work engagement and teacher performance



The graphic visualization shows a continuous upward trend in teacher work engagement and performance levels from the pre-implementation stage to the third month of the Digital-Spiritual Leadership model. Both indicators experienced a gradual and consistent increase throughout each measurement period. The line movement pattern in the graph shows a consistent and progressive direction between teacher work engagement and professional performance. This condition indicates a positive correlation between strengthening leadership that integrates digital and spiritual dimensions and improving teacher work quality. The relatively stable upward trend each month indicates that the changes are not incidental or temporary. Instead, the increase reflects the impact of a structured and sustainable intervention. The implementation of the model appears to have a systematic impact on both the psychological aspects and professional performance of teachers. The integration of digital literacy into leadership practices strengthens school managerial effectiveness. At the same time, the internalization of spiritual values plays a role in building work meaning and collective commitment. The combination of these two dimensions encourages the formation of a more productive and collaborative work culture. Thus, this graph reinforces the finding that Digital-Spiritual Leadership contributes significantly to supporting educational transformation that is oriented towards quality and sustainability.

In general, the findings of this study show a significant increase in work enthusiasm, professional commitment, and active involvement of teachers in carrying out their responsibilities after the model was implemented. These changes are reflected in increased enthusiasm in completing tasks, sincerity in achieving professional standards, and more intense participation in various school activities. Furthermore, the quality of lesson planning shows more systematic and structured improvements compared to before implementation. Innovation in pedagogical practices also develops through the more creative and targeted use of digital technology. The achievement of school performance targets has experienced a consistent upward trend during the model implementation period. The integration of digital literacy skills and the strengthening of spiritual values has been proven to produce a leadership pattern that is transformative and adaptive to change. The developed model not only meets the aspect of conceptual validity but also demonstrates practicality in field implementation. Its effectiveness is evident in the tangible impact on improving teacher work engagement and professional performance. Leadership that combines technological and spiritual dimensions can build a more meaningful and productive work culture. Therefore, the Digital-Spiritual Leadership approach is worthy of consideration as a relevant alternative leadership strategy. Therefore, this model can be recommended to support the success of sustainable educational transformation.

DISCUSSION

The implementation of the Digital-Spiritual Leadership model has been shown to significantly improve teacher work engagement in schools. The increase in work vigor reflects teachers' increased energy, enthusiasm, and fighting spirit in carrying out their professional responsibilities. These findings indicate that leadership that combines digital skills with the strengthening of spiritual values can foster stronger intrinsic motivation (Ghanizadeh, 2025). Teachers no longer work solely out of administrative obligation, but are driven by a deep understanding of the meaning of their profession as a form of service. The aspect of professional commitment (dedication) has also shown significant improvement, reflected in the seriousness of achieving learning quality standards (Zeng, 2025). The level of full engagement in tasks (absorption) shows that teachers are increasingly focused and enjoying the work process. These results confirm that inspirational leadership has a direct impact on the psychological state and work attitudes of educators. The combination of spiritual values as an ethical foundation with digital competency as a strategic direction for change creates a supportive and sustainable work culture, so that increased engagement reflects a transformation in organizational culture, not just a temporary technical effect (Shi, 2025).

In the realm of teacher performance, research results show improvements in the quality of lesson planning and the development of pedagogical innovations. Teachers appear more structured and focused in developing teaching materials by optimizing the use of digital

technology. Learning practices have been updated through the use of interactive media and collaborative models based on online platforms. These developments confirm that strengthening digital literacy facilitated by the principal's leadership contributes directly to the quality of the teaching and learning process. Furthermore, internalizing spiritual values fosters a reflective attitude and professional responsibility in teachers (Luo, 2025). Work orientation is no longer limited to achieving administrative indicators, but also focuses on providing valuable and meaningful educational services. School performance targets show a steady upward trend throughout the model's implementation period. This finding indicates a positive correlation between strengthening work engagement and improving teacher professional performance. The integration of technological competencies and a foundation of values creates a work culture that is both innovative and imbued with integrity. Thus, improved teacher performance is seen not only in the quantity of achievements but also in the quality of their professional practice. These changes reflect the comprehensive impact of implementing the developed leadership model (Huang, 2025).

The analysis shows that the combination of digital skills and strengthening spiritual values produces an inspiring leadership style that has a broad impact on the school system. In this context, the principal is no longer limited to administrative functions but acts as a driving force for organizational cultural change. Digital-based leadership encourages more responsive decision-making processes based on accurate data (Love, 2025). At the same time, the spiritual dimension serves as an ethical foundation that ensures that every policy remains grounded in humanitarian values and morality. The synergy of these two aspects creates a balance between managerial effectiveness and a deeper sense of work meaning. Teachers experience more comprehensive support, both in terms of professional technical aspects and moral development. The school climate also develops into a more collaborative, participatory, and open to innovation. Thus, Digital-Spiritual leadership not only drives procedural change but also brings about substantive transformation that improves the quality of the organization as a whole (Sheridan, 2025).

The results of this study further confirm the theoretical view that levels of work engagement are significantly influenced by supportive leadership and a clear vision. Principals who are able to formulate and communicate the direction of digital transformation in a structured manner, while internalizing spiritual values, provide clear guidance for teachers in carrying out their roles. This clarity of orientation fosters a sense of ownership and active participation in realizing the institution's goals (Creely, 2025). Teachers no longer position themselves solely as policy implementers, but rather as subjects involved in the change process. The impact is seen in the increased collective commitment to achieving higher standards of educational quality. Inspirational leadership also opens up space for reflective and constructive two-way dialogue. Positive working relationships between principals and teachers create a harmonious, collaborative atmosphere. This situation serves as an important foundation for building a learning organization that is adaptive and responsive to change. Therefore, increased work engagement can be understood as a logical implication of transformative and integrative leadership practices. The synergy between the digital and spiritual dimensions ultimately enriches the dynamics of educational management as a whole (Tuveri, 2025).

From a model development perspective, the findings of this study indicate that the Research and Development (R&D) method is capable of producing operational and easily implemented leadership designs. The formulated model is not only conceptually robust but also demonstrates real effectiveness based on empirical field testing. A validation phase by experts ensures the model's alignment with current educational management principles. A limited trial demonstrated the model's direct application in school leadership practice (Neufeld, 2025). The effectiveness evaluation results show a steady increase in indicators of work engagement and teacher performance. This fact confirms the model's high level of practicality and usefulness. Supporting data analysis through tables and graphs further strengthens the accuracy of the interpretation of the research results. Thus, this study makes a significant methodological contribution to the development of an educational leadership model that is adaptive to the demands of broader transformation (Cuenca, 2025).

In general, the discussion results confirm that Digital-Spiritual Leadership is a leadership model that aligns with the demands of the era of educational transformation. The marked increase in work enthusiasm, professional commitment, and active teacher participation indicates the model's success from both a psychological and institutional perspective. Improvements in the quality of learning planning, development of pedagogical innovations, and achievement of performance targets demonstrate a concrete professional impact (Krause, 2025). The combination of digital literacy competencies and the internalization of spiritual values creates a leadership style that is responsive to technological advances while also grounded in ethics and integrity. This leadership model is able to inspire and motivate the entire school community to move toward a shared vision. The changes created are not temporary, but rather sustainable, supported by a renewed organizational work culture. Therefore, this model is worthy of consideration as an alternative strategy for strengthening the leadership capacity of school principals. Furthermore, the findings of this study enrich the theoretical and practical literature in the field of educational management and the development of school quality as a whole (Dilekçi, 2025).

The implications of this research confirm that the success of the educational transformation process is largely determined by the principal's leadership capacity in managing the dynamics of change. Leadership that focuses solely on digital technical mastery without strengthening the spiritual dimension risks producing rigid and procedural changes. Conversely, leadership that solely emphasizes moral values without the support of digital competencies can limit innovation and reduce the effectiveness of school organizations. The Digital-Spiritual Leadership model offers a proportional integration of technological skills and deep spiritual values, resulting in an inspirational and transformation-oriented leadership style.

Improving teacher engagement, reflected in enthusiasm, dedication, and full engagement in tasks, significantly impacts the quality of learning. The development of teacher professional performance is sustainable, supported by a collaborative, reflective, and meaningful work environment. Therefore, the implementation of this model not only encourages the growth of individual teacher capacity but also strengthens the resilience and effectiveness of the school system as a whole. Conceptually and practically, these findings enrich the study of educational leadership based on the integration of values and technology and serve as a strategic reference for school principals in designing adaptive and contextual leadership.

CONCLUSION

Based on the research findings and analysis conducted, it can be confirmed that the development of the Digital-Spiritual Leadership model for school principals has successfully produced a valid, applicable, and effective leadership framework in facing the dynamics of educational transformation. The Research and Development (R&D) stages, which include needs identification, conceptual design development, expert validation, limited trials, and effectiveness testing, ensure that the model has both a theoretical foundation and adequate empirical support. The implementation of this model has been proven to significantly increase teacher work engagement, particularly in the dimensions of work enthusiasm, professional loyalty, and active participation in carrying out responsibilities. Improved teacher performance is also evident through improvements in the quality of lesson planning, the development of innovations in pedagogical practices, and the more optimal achievement of institutional performance targets. These results indicate that the combination of digital skills and the internalization of spiritual values can encourage positive transformation in school work culture. The synergy of these two aspects creates a leadership style that is responsive to technological advances while also grounded in the principles of professional ethics and integrity. Its influence is comprehensive because it simultaneously touches on the psychological dimensions and teacher productivity. Thus, the designed model has proven to be able to meet the needs of educational leadership in an era of increasingly complex change, making it worthy of being considered relevant and effective in strengthening work engagement and improving teacher performance.

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