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The Influence of Visionary Principal Leadership, Digital Transformation Support, and Organizational Innovation on Learning Quality

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ABSTRACT

Effective organizational performance in educational institutions increasingly depends on leadership capacity, digital transformation readiness, and organizational innovation. This study aimed to examine the influence of visionary leadership, digital transformation support, and organizational innovation on organizational performance among elementary school teachers in Larangan District, Brebes Regency. A quantitative approach with a correlational research design was employed. Data were collected through questionnaires administered to 218 teachers selected using proportional random sampling. The data were analyzed using descriptive statistics, correlation analysis, and multiple linear regression. The findings revealed that visionary leadership, digital transformation support, and organizational innovation each had a positive and significant effect on organizational performance. Simultaneously, the three variables explained 62.6% of the variance in organizational performance. Visionary leadership emerged as the most influential predictor, indicating that leaders who provide a clear vision and strategic direction play a critical role in enhancing organizational outcomes. The study concludes that strengthening leadership practices, supporting digital transformation initiatives, and fostering innovation are essential strategies for improving organizational performance in educational settings. These findings contribute to the development of educational management practices and provide practical guidance for school leaders and policymakers.

Keywords: Digital Transformation Support; Organizational Innovation; Organizational Performance; Visionary Leadership

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INTRODUCTION

The quality of learning remains a central concern in educational development because it determines students' academic achievement, character formation, and readiness to face future challenges. In primary education, learning quality reflects the effectiveness of instructional planning, implementation, assessment, and classroom interaction that support meaningful learning experiences. Improving learning quality has become increasingly important in Indonesia following the implementation of the Merdeka Curriculum, educational digitalization programs, and data-based planning policies aimed at strengthening school performance. However, differences in learning outcomes and instructional effectiveness among schools indicate that learning quality is influenced not only by curriculum implementation but also by leadership capacity, technological readiness, and organizational conditions that support educational improvement.

Among the factors contributing to educational quality, school leadership has received considerable attention from researchers and policymakers (Bellibaş et al., 2021; Özdemir et al.,

2024; Pietsch et al., 2025). Contemporary educational organizations require principals who are capable of providing strategic direction, inspiring stakeholders, and facilitating continuous improvement. Visionary leadership is characterized by the ability of leaders to formulate a clear vision, communicate organizational goals, motivate school members, and transform educational aspirations into concrete actions. Fauzi et al. (2024) argued that visionary leadership enables principals to develop institutional quality management through systematic planning, organizing, implementation, monitoring, and evaluation processes. Similarly, Kusumawati (2024) found that principals' visionary leadership contributes to school quality improvement by establishing positive role models and fostering productive organizational habits that support educational excellence. Recent evidence also suggests that visionary leadership serves as an important driver of quality culture and educational innovation, particularly in contexts where schools are expected to adapt to rapid social and technological changes (Sobari et al., 2025; Ninković & Knežević Florić 2024; Navaridas-Nalda et al., 2020).

The growing influence of digital technology has further transformed educational practices across the world. Digital transformation is no longer limited to the adoption of technological devices but involves broader organizational changes that affect teaching, learning, communication, and decision-making processes. Allouche (2024) emphasized that digital transformation in education should be understood as a systemic process involving interconnected elements within educational environments rather than merely the implementation of technology. Effective digital transformation requires adequate infrastructure, institutional support, professional development opportunities, and organizational readiness to integrate technology into educational practices. Consequently, schools that successfully implement digital transformation are more likely to enhance instructional effectiveness and create learning environments that respond to the demands of twenty-first-century education.

In addition to leadership and digital transformation, organizational innovation has become increasingly important in educational improvement efforts. Schools operate in dynamic environments characterized by policy reforms, technological developments, and changing societal expectations. As a result, educational institutions are required to develop innovative strategies that enable them to respond effectively to emerging challenges. Organizational innovation refers to the development and implementation of new ideas, processes, and collaborative practices that improve institutional effectiveness and educational outcomes. Innovative schools tend to promote professional collaboration, adaptive decision-making, and continuous learning among organizational members. Such conditions create opportunities for improving instructional quality and strengthening organizational performance in sustainable ways.

Current educational research demonstrates growing interest in understanding how leadership, technology, and organizational innovation contribute to educational improvement. Studies on visionary leadership consistently report positive relationships between leadership practices and school quality (Fauzi et al., 2024; Kusumawati, 2024). Research on digital transformation highlights the importance of technological readiness and institutional support in improving educational processes (Allouche, 2024). Likewise, studies on organizational innovation emphasize the role of adaptive organizational cultures in promoting educational effectiveness and continuous improvement. Collectively, these findings indicate that educational quality is influenced by multiple organizational dimensions that interact with one another.

From a state-of-the-art perspective, recent educational studies increasingly advocate integrated approaches that combine leadership capacity, technological transformation, and organizational innovation as key determinants of school improvement (Berkovich, I., & Hassan, T. 2022; AlAjmi 2022; Claro et al., 2024). This perspective reflects a shift from traditional management-oriented models toward more comprehensive frameworks that recognize the complexity of educational organizations in the digital era. Rather than focusing solely on instructional processes, contemporary research emphasizes the importance of creating organizational conditions that support sustainable educational quality through strategic leadership, technological support, and innovation-oriented cultures.

Despite these developments, several research gaps remain evident. First, many previous studies have examined visionary leadership, digital transformation, and organizational

innovation independently, resulting in fragmented explanations regarding their influence on learning quality (North, F., Gezer, T., & Ceviker, E. 2025; Msambwa, Daniel, and Cai, 2024; Blömeke, S., et al., 2021). Second, empirical evidence focusing on primary school contexts remains relatively limited compared with studies conducted in secondary schools and higher education institutions. Third, research integrating these three variables within a single analytical framework is still scarce, particularly in Indonesian district-level educational settings. Consequently, there is a need for empirical studies that provide a more comprehensive understanding of how leadership, digital transformation support, and organizational innovation collectively contribute to learning quality.

The novelty of this study lies in its integrated examination of visionary principal leadership, digital transformation support, and organizational innovation as simultaneous predictors of learning quality among primary school teachers. Unlike previous studies that tend to focus on individual variables, this research develops a comprehensive model that explains how leadership capacity, technological support, and organizational innovation jointly influence learning quality. Furthermore, the study provides empirical evidence from public primary schools in Larangan District, Brebes Regency, an educational context that has received limited attention in previous research.

This study aims to analyze the effect of visionary principal leadership on learning quality, examine the influence of digital transformation support on learning quality, investigate the contribution of organizational innovation to learning quality, and determine the simultaneous effect of visionary principal leadership, digital transformation support, and organizational innovation on learning quality among primary school teachers in Larangan District, Brebes Regency.

This study is expected to contribute both theoretically and practically to efforts aimed at improving learning quality in educational institutions. From a theoretical perspective, the findings enrich the growing body of literature on educational leadership, digital transformation, organizational innovation, and learning quality by providing empirical evidence of the relationships among these variables. The study also offers a deeper understanding of how visionary leadership, effective digital transformation support, and organizational innovation interact to create conditions that foster high-quality learning (Pan et al., 2024; Hsieh et al., 2026; Katebi et al, 2024). From a practical perspective, the findings may serve as valuable references for school principals, teachers, educational supervisors, and policymakers in developing strategies to enhance learning quality through strengthening future-oriented leadership practices, optimizing the use of digital technologies, and cultivating a sustainable culture of innovation within schools.

Based on these considerations, this study seeks to examine the extent to which visionary principal leadership, digital transformation support, and organizational innovation contribute to learning quality. Specifically, the study investigates the effect of visionary principal leadership on learning quality, analyzes the influence of digital transformation support on learning quality, examines the contribution of organizational innovation to learning quality, and evaluates the simultaneous effect of these three factors on learning quality. Through this investigation, the study aims to provide a more comprehensive understanding of the strategic factors that support the improvement of learning quality in an increasingly dynamic and technology-driven educational environment.

METHOD

This study employed a quantitative approach using an ex post facto research design. A quantitative approach was considered appropriate because the study aimed to examine the relationships and predictive effects among measurable variables through statistical procedures. According to Creswell and Creswell (2018), quantitative research enables researchers to test theories by examining the relationships among variables using numerical data and statistical analysis. The ex post facto design was selected because the researcher did not manipulate any variables but investigated existing conditions related to visionary principal leadership, digital transformation support, organizational innovation, and learning quality.

The study was conducted in public primary schools located in Larangan District, Brebes Regency, Central Java, Indonesia. The target population consisted of 478 teachers working in

public primary schools within the district. Since it was not practical to involve all members of the population, a representative sample was selected using a probability sampling technique. Probability sampling provides equal opportunities for all population members to be selected and helps improve the representativeness of research findings (Sugiyono, 2022). The sample size was determined using an appropriate sampling formula to ensure that the collected data adequately represented the population characteristics.

Data were collected through a structured questionnaire developed based on relevant theoretical frameworks and previous empirical studies. The questionnaire consisted of four constructs: Visionary Principal Leadership (X1), Digital Transformation Support (X2), Organizational Innovation (X3), and Learning Quality (Y). Each construct was operationalized through several indicators derived from the literature. Visionary principal leadership was measured through indicators related to vision development, communication of goals, motivation, and strategic direction. Digital transformation support included technological infrastructure, institutional support, digital competence development, and technology integration. Organizational innovation covered dimensions of creativity, adaptive practices, collaboration, and continuous improvement. Learning quality was measured through indicators associated with instructional planning, implementation, assessment, classroom interaction, and student-centered learning practices. All questionnaire items were measured using a five-point Likert scale ranging from strongly disagree to strongly agree.

Before the main data collection process, the instrument underwent validity and reliability testing to ensure its quality and consistency. Item validity was examined using Pearson Product Moment correlation analysis, where items with correlation coefficients exceeding the critical value were considered valid. Reliability was assessed using Cronbach's Alpha coefficient. Following the recommendation of Hair et al. (2019), a Cronbach's Alpha value greater than 0.70 indicates acceptable internal consistency. These procedures were conducted to ensure that the instrument accurately measured the intended constructs and produced reliable data for subsequent analysis.

The data collection process was carried out systematically. After obtaining permission from relevant educational authorities and school administrators, questionnaires were distributed to selected respondents. Participants were informed about the purpose of the study and assured that their responses would remain confidential and be used solely for academic purposes. Ethical considerations, including voluntary participation, anonymity, and confidentiality, were maintained throughout the research process. Such ethical practices are essential for ensuring research integrity and protecting participants' rights (Creswell & Creswell, 2018).

The collected data were analyzed using Statistical Package for the Social Sciences (SPSS). The analysis began with descriptive statistics to provide an overview of respondents' characteristics and variable distributions. Subsequently, assumption tests were conducted to ensure that the data met the requirements for regression analysis. These tests included normality, multicollinearity, and heteroscedasticity assessments. After the assumptions were satisfied, multiple linear regression analysis was employed to examine the influence of visionary principal leadership, digital transformation support, and organizational innovation on learning quality. Partial effects were evaluated using t-tests, while simultaneous effects were examined through F-tests. In addition, the coefficient of determination (R^2) was calculated to determine the proportion of variance in learning quality explained by the independent variables. This analytical procedure enabled a comprehensive examination of both individual and combined contributions of the predictor variables to learning quality.

A well-structured methodology serves not only as a technical description of research procedures but also as a reflection of scientific reasoning, methodological rigor, and ethical responsibility. Transparent reporting of research design, sampling procedures, instrument development, data collection, and statistical analysis enhances the validity, reliability, and credibility of the study. Therefore, the methodological framework adopted in this research was designed to provide trustworthy empirical evidence regarding the influence of visionary principal leadership, digital transformation support, and organizational innovation on learning quality among primary school teachers in Larangan District, Brebes Regency.

RESULT AND DISCUSSION

This section presents the findings of the study concerning the effects of visionary leadership, digital transformation support, and organizational innovation on learning quality. Data analysis was conducted using correlation and regression techniques to examine both the individual and simultaneous contributions of the independent variables. The findings are discussed by integrating statistical evidence, relevant theories, and previous empirical studies to provide a comprehensive understanding of the factors influencing learning quality.

3.1 Effect of Visionary Leadership on Learning Quality

` Given the growing importance of future-oriented leadership in educational settings, the present study explored the influence of visionary leadership on learning quality. Particular attention was directed toward understanding how leadership characterized by clear vision, strategic direction, and innovation-oriented practices contributes to the achievement of higher-quality learning outcomes.

Table 1. Correlation between Visionary Leadership and Learning Quality

Variable	Correlation Coefficient (r)	Sig.
Visionary Leadership – Learning Quality	0.760	0.000

Table 1 shows a correlation coefficient of 0.760 with a significance value of 0.000. Since the significance value is lower than 0.05, the relationship between visionary leadership and learning quality is statistically significant. The correlation coefficient indicates a strong positive relationship, suggesting that higher levels of visionary leadership are associated with higher levels of learning quality.

Understanding the extent to which visionary leadership contributes to learning quality is essential for explaining variations in educational performance. In this regard, a simple regression analysis was employed to assess the predictive power of visionary leadership and to identify its contribution to improving learning quality. The analysis provides empirical evidence regarding the strength of this relationship and highlights the importance of leadership practices in fostering effective learning environments.

Table 2. Simple Regression Analysis of Visionary Leadership on Learning Quality

Variable	B	t-value	Sig.	R^2
Visionary Leadership	0.765	17.165	0.000	0.577

The regression analysis presented in Table 2 indicates that visionary leadership significantly affects learning quality. The regression coefficient (B = 0.765) demonstrates a positive direction of influence, meaning that an increase in visionary leadership is followed by an increase in learning quality. The t-value of 17.165 with a significance value of 0.000 confirms that the influence is statistically significant. Furthermore, the coefficient of determination (R^2 = 0.577) reveals that 57.7% of the variance in learning quality can be explained by visionary leadership, while the remaining 42.3% is influenced by other variables not included in this study.

The findings indicate that visionary leadership plays a substantial role in improving learning quality. The strong correlation coefficient (r = 0.760) and the relatively high coefficient of determination (57.7%) suggest that principals who possess a clear vision, strategic direction, and future-oriented perspectives are more capable of creating conditions that support effective learning. Such principals tend to encourage collaboration, motivate teachers, establish clear educational goals, and align school programs with long-term educational objectives. As a result, learning activities become more organized, innovative, and responsive to students' learning needs.

The contribution of visionary leadership found in this study is greater than that of digital transformation support (R^2 = 46.2%) and organizational innovation (R^2 = 44.3%), indicating that leadership serves as the primary driving force behind learning quality

improvement. This finding suggests that technological support and organizational innovation may not achieve optimal outcomes without leaders who can provide direction, coordinate resources, and inspire school members to pursue shared goals. Therefore, visionary leadership functions as a strategic foundation for the successful implementation of other school improvement initiatives.

These findings are consistent with previous studies emphasizing the importance of school leadership in enhancing educational quality. Hallinger and Murphy reported that effective school leadership contributes significantly to instructional improvement and student achievement. Similarly, Leithwood and Jantzi found that leadership influences school effectiveness through vision building, teacher commitment, and organizational capacity development. Previous studies conducted in educational institutions have also shown that schools led by visionary principals tend to exhibit higher levels of teacher performance, organizational effectiveness, and learning outcomes compared to schools with less effective leadership practices.

From a theoretical perspective, the findings support Nanus's Visionary Leadership Theory, which emphasizes the leader's ability to formulate, communicate, and implement a compelling vision that guides organizational members toward future success. According to Nanus, visionary leaders create a shared sense of purpose, encourage innovation, and mobilize organizational resources to achieve strategic goals. In educational settings, principals who demonstrate visionary leadership can align instructional programs, school culture, and professional development activities with the school's long-term aspirations. The significant influence identified in this study provides empirical evidence that a clearly articulated vision serves as an important mechanism for improving learning quality.

The findings have important implications for educational policy and school management practices. Given that visionary leadership explains more than half of the variation in learning quality (57.7%), strengthening principals' leadership competencies should become a strategic priority. Educational authorities should provide continuous professional development programs focusing on strategic planning, change management, innovation leadership, and vision-driven decision-making. Schools should also encourage principals to actively communicate institutional goals, foster teacher participation, and build collaborative cultures that support continuous improvement. Through these efforts, schools can establish stronger foundations for achieving sustainable improvements in learning quality.

3.2 Effect of Digital Transformation Support on Learning Quality

Digital transformation has become an increasingly important factor in supporting effective learning practices in contemporary educational institutions. Understanding how digital transformation support contributes to learning quality is therefore essential for explaining improvements in educational outcomes. To explore this relationship more comprehensively, correlation and simple regression analyses were employed to assess both the strength of the association and the magnitude of the influence of digital transformation support on learning quality.

Table 3. Correlation between Digital Transformation Support and Learning Quality

Variable	Correlation Coefficient (r)	Sig.
Digital Transformation Support – Learning Quality	0.680	0.000

Table 3 shows that digital transformation support has a correlation coefficient of 0.680 with a significance value of 0.000. Since the significance value is below 0.05, the relationship between digital transformation support and learning quality is statistically significant. The correlation coefficient indicates a strong positive relationship, suggesting that schools with higher levels of digital transformation support tend to demonstrate better learning quality.

Assessing the extent to which digital transformation support contributes to learning quality is important for understanding its practical significance in educational improvement efforts. A simple regression analysis was therefore employed to estimate the magnitude of the influence of digital transformation support on learning quality. The findings provide empirical

evidence regarding the predictive role of digital transformation support in enhancing learning outcomes.

Table 4. Simple Regression Analysis of Digital Transformation Support on Learning Quality

Variable	B	t-value	Sig.	R^2
Digital Transformation Support	0.616	13.628	0.000	0.462

The regression analysis presented in Table 4 indicates that digital transformation support significantly affects learning quality. The regression coefficient (B = 0.616) demonstrates a positive direction of influence, indicating that improvements in digital transformation support are associated with improvements in learning quality. The t-value of 13.628 and significance value of 0.000 confirm that the effect is statistically significant. Furthermore, the coefficient of determination (R^2 = 0.462) reveals that 46.2% of the variance in learning quality can be explained by digital transformation support, while the remaining 53.8% is influenced by other variables beyond the scope of this study.

The findings indicate that digital transformation support contributes substantially to the improvement of learning quality. The strong correlation coefficient (r = 0.680) suggests that schools that successfully integrate digital technologies into educational processes tend to achieve better learning outcomes. Digital transformation support encompasses the availability of technological infrastructure, access to digital learning resources, institutional support for technology integration, and the capacity of teachers and school personnel to utilize digital tools effectively. When these elements are adequately supported, learning activities become more flexible, interactive, and responsive to the evolving needs of students in the digital era.

The coefficient of determination shows that digital transformation support explains nearly half of the variation in learning quality (46.2%). This finding highlights the growing importance of digitalization in educational settings. The integration of digital technologies not only facilitates access to information but also enables innovative learning approaches, promotes student engagement, and supports data-driven decision-making processes. Consequently, schools that actively embrace digital transformation are more likely to create learning environments capable of meeting the demands of twenty-first-century education.

The results of this study are consistent with previous research emphasizing the role of digital transformation in enhancing educational effectiveness. Studies conducted by researchers in educational technology have shown that digital infrastructure and technology-supported learning environments positively influence student engagement, instructional quality, and academic achievement. Research on digital school transformation has further demonstrated that schools with strong technological support systems are better equipped to implement innovative pedagogical practices and respond to educational challenges. Similar findings have been reported in various educational contexts, where digital transformation initiatives have contributed to improved teaching effectiveness, learning efficiency, and institutional performance.

From a theoretical perspective, the findings support the Digital Transformation Theory, which views technology as a strategic enabler of organizational improvement and innovation. The theory suggests that digital transformation extends beyond the adoption of technology and involves fundamental changes in organizational culture, processes, and leadership practices. Within educational institutions, digital transformation enables schools to modernize instructional delivery, improve communication systems, facilitate collaboration, and enhance access to learning resources. The significant contribution of digital transformation support identified in this study provides empirical evidence that technological readiness and institutional support are important determinants of learning quality in contemporary educational environments.

Although the contribution of digital transformation support (46.2%) is lower than that of visionary leadership (57.7%), its influence remains substantial. This finding suggests that technology alone is insufficient to improve learning quality without appropriate leadership and organizational direction. However, when supported by adequate infrastructure, digital competencies, and institutional commitment, digital transformation becomes a powerful

mechanism for strengthening teaching and learning processes. Therefore, digital transformation support should be viewed as a complementary factor that reinforces leadership efforts to achieve educational improvement.

The findings have important implications for educational policy and practice. Schools should prioritize investments in digital infrastructure, internet accessibility, learning management systems, and digital learning resources. Educational authorities should also provide continuous professional development programs that enhance teachers' digital competencies and promote effective technology integration in classroom instruction. Furthermore, school leaders should foster a culture that encourages innovation, experimentation, and continuous adaptation to technological advancements. Through these efforts, schools can maximize the benefits of digital transformation and create learning environments that support sustainable improvements in learning quality.

3.3 Effect of Organizational Innovation on Learning Quality

Organizational innovation plays a critical role in enabling educational institutions to adapt to changing demands and continuously improve learning practices. Understanding its contribution to learning quality is therefore essential for explaining variations in educational performance. In this context, correlation and simple regression analyses were employed to investigate the relationship between organizational innovation and learning quality, as well as to assess the extent of its influence on educational outcomes.

Table 5. Correlation between Organizational Innovation and Learning Quality

Variable	Correlation Coefficient (r)	Sig.
Organizational Innovation – Learning Quality	0.665	0.000

Table 5 shows that organizational innovation has a correlation coefficient of 0.665 with a significance value of 0.000. Since the significance value is below 0.05, the relationship between organizational innovation and learning quality is statistically significant. The correlation coefficient indicates a strong positive relationship, suggesting that schools with higher levels of organizational innovation tend to demonstrate higher levels of learning quality.

Assessing the contribution of organizational innovation to learning quality requires an understanding of the extent to which innovation-oriented practices influence educational outcomes. A simple regression analysis was therefore employed to estimate the magnitude of the effect of organizational innovation on learning quality. The analysis provides empirical evidence regarding the predictive role of organizational innovation in fostering higher-quality learning environments.

Table 6. Simple Regression Analysis of Organizational Innovation on Learning Quality

Variable	B	t-value	Sig.	R^2
Organizational Innovation	0.644	13.094	0.000	0.443

The regression analysis presented in Table 6 indicates that organizational innovation significantly affects learning quality. The regression coefficient (B = 0.644) demonstrates a positive direction of influence, indicating that improvements in organizational innovation are associated with improvements in learning quality. The t-value of 13.094 and significance value of 0.000 confirm that the effect is statistically significant. Furthermore, the coefficient of determination (R^2 = 0.443) reveals that 44.3% of the variance in learning quality can be explained by organizational innovation, while the remaining 55.7% is influenced by other factors not examined in this study.

The findings indicate that organizational innovation contributes substantially to the enhancement of learning quality. The strong correlation coefficient (r = 0.665) suggests that schools characterized by innovative organizational practices are more likely to create effective learning environments. Organizational innovation refers to the school's ability to introduce new ideas, improve work systems, develop adaptive policies, and encourage continuous

improvement in educational processes. Schools that consistently promote innovation are generally better prepared to respond to changing educational demands, address emerging challenges, and improve the effectiveness of teaching and learning activities.

The coefficient of determination demonstrates that organizational innovation explains 44.3% of the variation in learning quality. This finding highlights the importance of innovation as a mechanism for organizational development and educational improvement. Innovative schools tend to be more flexible in managing resources, implementing instructional reforms, and fostering collaborative problem-solving among teachers and staff. Such conditions create opportunities for continuous enhancement of instructional quality, student engagement, and overall school performance.

The results of this study are consistent with previous research emphasizing the role of organizational innovation in improving educational effectiveness. Research conducted in educational organizations has shown that innovative schools are more capable of adapting to environmental changes, implementing educational reforms, and improving institutional performance. Studies on school improvement have also reported that innovation contributes positively to teacher effectiveness, organizational learning, and student achievement. Furthermore, previous empirical evidence suggests that schools with strong innovation cultures are better equipped to sustain educational quality in increasingly dynamic and competitive environments.

From a theoretical perspective, the findings support Organizational Innovation Theory, which emphasizes the importance of generating, adopting, and implementing new ideas to improve organizational effectiveness. According to this theory, innovation enables organizations to adapt to environmental changes, improve internal processes, and achieve higher levels of performance. Within educational institutions, organizational innovation involves the development of new instructional approaches, management practices, collaborative structures, and problem-solving mechanisms that support continuous improvement. The significant influence identified in this study provides empirical evidence that innovation serves as a strategic resource for enhancing learning quality and strengthening school effectiveness.

Although organizational innovation contributes positively to learning quality, its explanatory power (44.3%) is slightly lower than that of visionary leadership (57.7%) and digital transformation support (46.2%). This finding suggests that innovation is most effective when supported by strong leadership and adequate technological infrastructure. Innovative practices may emerge within schools; however, their sustainability and impact often depend on leaders who provide strategic direction and on digital systems that facilitate implementation. Therefore, organizational innovation should be viewed as an integral component of a broader school improvement strategy rather than as an isolated factor.

The findings have important implications for educational management and policy development. Schools should foster organizational cultures that encourage creativity, experimentation, collaboration, and continuous learning. Educational leaders should provide opportunities for teachers and staff to develop innovative practices, share knowledge, and participate in school improvement initiatives. Policymakers should also support innovation through flexible regulations, professional development programs, and institutional incentives that encourage schools to develop contextually relevant solutions to educational challenges. Through sustained organizational innovation, schools can strengthen their capacity to improve learning quality and achieve long-term educational excellence.

3.4 Simultaneous Effect of Visionary Leadership, Digital Transformation Support, and Organizational Innovation on Learning Quality

Learning quality is shaped by multiple organizational and leadership-related factors that interact to support effective educational practices. Understanding their combined contribution is therefore essential for obtaining a more comprehensive picture of the determinants of learning quality. In this context, multiple regression analysis was employed to investigate the simultaneous influence of visionary leadership, digital transformation support, and organizational innovation on learning quality.

Table 7. Multiple Regression Analysis of Visionary Leadership, Digital Transformation Support, and Organizational Innovation on Learning Quality

Variable	B	Beta	t-value	Sig.
Constant	17.395	-	-	-
Visionary Leadership (X_1)	0.475	0.472	6.322	0.000
Digital Transformation Support (X_2)	0.187	0.206	2.784	0.006
Organizational Innovation (X_3)	0.185	0.191	2.652	0.009

Model Summary

R	R^2	Adjusted R^2	F-value	Sig.
0.791	0.626	0.621	119.493	0.000

Table 7 shows that visionary leadership, digital transformation support, and organizational innovation simultaneously have a significant effect on learning quality. The multiple correlation coefficient (R = 0.791) indicates a strong positive relationship between the three independent variables and learning quality. The coefficient of determination (R^2 = 0.626) reveals that 62.6% of the variance in learning quality can be explained collectively by visionary leadership, digital transformation support, and organizational innovation, while the remaining 37.4% is influenced by other factors beyond the scope of this study. Furthermore, the F-value of 119.493 with a significance value of 0.000 confirms that the regression model is statistically significant and suitable for explaining variations in learning quality. Based on the regression coefficients obtained, the multiple regression equation can be formulated as follows:

$$\mathbf{Y = 17.395 + 0.475X_1 + 0.187X_2 + 0.185X_3}$$

The regression equation indicates that all independent variables have positive coefficients, suggesting that improvements in visionary leadership, digital transformation support, and organizational innovation contribute positively to learning quality. The positive coefficients imply that increases in these variables are associated with corresponding increases in learning quality, assuming the other variables remain constant.

Among the three predictors, visionary leadership emerged as the most dominant variable influencing learning quality. This conclusion is supported by the highest standardized beta coefficient (β = 0.472), compared with digital transformation support (β = 0.206) and organizational innovation (β = 0.191). The findings indicate that although technological support and organizational innovation play important roles in improving educational quality, the effectiveness of these factors largely depends on leadership capacity. Principals who possess a clear vision, strategic orientation, and the ability to mobilize organizational resources appear to be more successful in creating conditions that facilitate innovation, digital transformation, and instructional improvement.

The overall findings of this study demonstrate that learning quality is shaped by an interaction between leadership, technology, and organizational capability. The individual analyses showed that visionary leadership contributed 57.7% to learning quality, followed by digital transformation support with 46.2% and organizational innovation with 44.3%. However, when examined simultaneously, the three variables collectively explained 62.6% of the variation in learning quality. This finding suggests that learning quality cannot be optimized through a single factor alone. Instead, sustainable educational improvement requires the integration of effective leadership, technological readiness, and innovative organizational practices. Schools that successfully combine these elements are more likely to establish adaptive, effective, and future-oriented learning environments. An important contribution of this study lies in its integrated examination of visionary leadership, digital transformation support, and organizational innovation within a single explanatory model of learning quality. Previous studies have often investigated these variables separately, focusing either on leadership

effectiveness, digital transformation initiatives, or organizational innovation practices. The present study demonstrates that these variables are interconnected and collectively contribute to educational quality improvement. The findings therefore provide a more comprehensive understanding of how leadership, technology, and innovation interact to influence learning quality in contemporary educational settings.

From a theoretical perspective, the findings support the integration of Visionary Leadership Theory, Digital Transformation Theory, and Organizational Innovation Theory. The results suggest that leadership serves as the primary strategic driver, while digital transformation and organizational innovation function as enabling mechanisms that facilitate the realization of educational goals. The study extends existing theoretical perspectives by demonstrating that learning quality is influenced not only by individual organizational factors but also by the synergistic interaction among leadership, technology, and innovation. Consequently, educational improvement should be understood as a multidimensional process that requires alignment among these three domains. The findings also provide important practical implications for educational policymakers, school leaders, and educational institutions. First, leadership development programs should prioritize strengthening visionary leadership competencies among school principals, given its dominant contribution to learning quality. Second, schools should continue investing in digital infrastructure, technological support systems, and digital competency development for teachers and staff. Third, educational institutions should cultivate organizational cultures that encourage innovation, collaboration, and continuous improvement. By simultaneously strengthening leadership capacity, digital transformation initiatives, and organizational innovation, schools can create sustainable conditions for improving learning quality and achieving long-term educational excellence.

DISCUSSION

The findings of this study demonstrate that visionary leadership, digital transformation support, and organizational innovation significantly influence learning quality. The multiple regression analysis revealed that these three variables jointly explain 62.6% of the variance in learning quality. Among them, visionary leadership emerged as the most influential predictor, followed by digital transformation support and organizational innovation. These findings indicate that improving learning quality requires not only technological readiness and innovative practices but also strong leadership capable of providing strategic direction and mobilizing organizational resources toward educational goals.

The strong influence of visionary leadership found in this study is consistent with previous research emphasizing the importance of leadership in educational improvement. Hallinger (2011) reported that school leadership contributes significantly to school effectiveness by shaping instructional processes, establishing organizational goals, and creating supportive learning environments. Similarly, Robinson, Lloyd, and Rowe (2008) found that leadership practices focused on teaching and learning have substantial effects on student outcomes and school performance. The consistency between these studies and the present findings suggests that leadership remains one of the most important determinants of educational quality. Schools led by principals with a clear vision are more capable of aligning organizational activities with educational objectives and fostering continuous improvement.

The findings can be explained through Nanus's (1992) Visionary Leadership Theory, which states that effective leaders create and communicate a compelling vision that directs organizational members toward a desired future. According to Nanus (1992), visionary leaders act as direction setters, change agents, and organizational motivators. In educational institutions, visionary principals encourage teachers to work toward common goals, strengthen organizational commitment, and facilitate school improvement initiatives. Therefore, the dominant influence of visionary leadership identified in this study supports the theoretical proposition that leadership serves as a catalyst for enhancing learning quality.

The positive effect of digital transformation support on learning quality is also consistent with previous empirical evidence. Vial (2019) explained that digital transformation enables organizations to improve performance through the integration of digital technologies into organizational processes and decision-making systems. In the educational context, Bond et al. (2021) found that technology-supported learning environments enhance student

engagement, improve access to learning resources, and support more effective instructional practices. Furthermore, George and Wooden (2023) reported that digital transformation contributes to organizational effectiveness by improving communication, collaboration, and knowledge management processes. These findings align with the present study, indicating that schools with stronger digital transformation support tend to provide higher-quality learning experiences.

Theoretically, digital transformation is not limited to the adoption of technological tools but involves a broader process of organizational change. Vial (2019) & Berkovich and Hassan (2025) argued that successful digital transformation requires technological infrastructure, human resource readiness, leadership support, and organizational adaptation. Consequently, schools that successfully integrate technology into teaching, learning, and management processes are better positioned to enhance educational quality. The significant contribution of digital transformation support found in this study therefore reflects the growing importance of technology-enabled educational environments in contemporary schooling.

The results further reveal that organizational innovation has a significant positive effect on learning quality. This finding is consistent with the work of Damanpour (1991), who demonstrated that innovation contributes positively to organizational effectiveness by enabling institutions to adapt to changing environments and improve operational performance. Likewise, Wang and Ahmed (2004) found that organizational innovativeness enhances adaptability, competitiveness, and long-term performance. In educational settings, innovative schools are more capable of implementing new instructional approaches, encouraging professional collaboration, and responding effectively to educational challenges. Therefore, the positive influence of organizational innovation identified in this study supports previous evidence highlighting innovation as a key driver of institutional improvement.

From a theoretical perspective, organizational innovation represents the adoption and implementation of new ideas, processes, and practices aimed at improving organizational effectiveness (Damanpour, 1991). Wang and Ahmed (2004) further argued that innovative organizations possess stronger capabilities for learning, adaptation, and continuous improvement. Within schools, innovation facilitates the development of more effective teaching strategies, encourages collaborative problem-solving, and strengthens institutional responsiveness to educational change. These theoretical arguments help explain why organizational innovation contributes significantly to learning quality in the present study.

Overall, the findings suggest that learning quality is shaped by the combined influence of visionary leadership, digital transformation support, and organizational innovation. The consistency between the present findings and previous studies confirms that educational improvement requires an integrated approach involving effective leadership, technological readiness, and innovative organizational practices. However, the dominant role of visionary leadership indicates that technology and innovation are most effective when guided by leaders who possess a clear vision and the ability to mobilize organizational members toward shared educational goals. Therefore, educational policymakers and school leaders should prioritize leadership development while simultaneously strengthening digital transformation initiatives and fostering cultures of innovation to improve learning quality sustainably.

CONCLUSION

This study concludes that visionary leadership, digital transformation support, and organizational innovation are significant determinants of organizational performance. The findings demonstrate that all three variables positively and significantly influence organizational performance, both individually and collectively. Among them, visionary leadership emerged as the most influential factor, indicating that leaders who are capable of articulating a clear future direction, inspiring organizational members, and fostering adaptive change play a critical role in enhancing organizational effectiveness and achieving sustainable performance. The results further highlight that digital transformation extends beyond the adoption of technology and encompasses organizational readiness to develop more efficient, responsive, and data-driven work systems. At the same time, organizational innovation serves as an essential mechanism that enables organizations to continuously adapt to changing demands and environmental challenges. The integration of visionary leadership, digital

transformation support, and organizational innovation therefore creates a strategic foundation for improving organizational competitiveness, resilience, and long-term performance.

From a theoretical perspective, this study contributes to the development of educational management and organizational leadership literature by providing empirical evidence regarding the interconnected roles of visionary leadership, digital transformation support, organizational innovation, and organizational performance. The findings reinforce the view that organizational success is not solely determined by leadership practices but also by the organization's capacity to embrace digital transformation and cultivate a culture of innovation. From a practical standpoint, the findings offer valuable insights for organizational leaders and policymakers in designing strategies to improve organizational performance. Strengthening visionary leadership capacities, providing adequate support for digital transformation initiatives, and fostering an organizational climate that encourages innovation should be prioritized as part of organizational development efforts. Such initiatives are expected to enhance work effectiveness, service quality, and organizational adaptability in an increasingly dynamic environment. This study is limited to a specific context and sample, which may restrict the generalizability of the findings. Future research is therefore encouraged to involve broader populations and diverse organizational settings while incorporating additional variables that may influence organizational performance, such as organizational culture, employee commitment, human resource competencies, and external environmental factors. Furthermore, future studies may employ mixed-method approaches to gain a deeper understanding of the mechanisms through which leadership, digital transformation, and innovation contribute to organizational performance.

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