

Digital Transformation, Sustainable Educational Practices and Emotional Intelligence on Leadership Capabilities Of School Leaders

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Abstract:

This study examines the impact of digital transformation, sustainable educational practices, and emotional intelligence on the leadership capabilities of school leaders. Focusing on integrating technology, the research investigates how digital leadership, school digital infrastructure, and digital pedagogy skills contribute to the development of effective school leaders. The study also explores the influence of environmental, social, and economic sustainability practices on technological capability and leadership effectiveness. Emotional intelligence, specifically self-awareness, self-regulation, and relationship management analyzed for its role in enabling school leaders to implement technology efficiently and foster positive school environments.

Utilizing quantitative methods, the research identifies significant positive relationships among digital transformation, sustainable practices, emotional intelligence, and leadership skills. Digital pedagogy skills and ecological sustainability exhibit the strongest correlations with leadership capabilities, while self-regulation emerges as the most influential predictor in regression analysis. Economic sustainability and social awareness also significantly contribute to leadership effectiveness, underscoring the multifaceted nature of contemporary educational leadership.

The findings reveal that school leaders who excel in digital integration, promote sustainable practices, and demonstrate high emotional intelligence are more likely to possess advanced leadership skills. These interrelated competencies enable leaders to navigate complex educational challenges, drive innovation, and support holistic school development. The study concludes that the convergence of digital, sustainable, and emotional competencies is essential for cultivating adaptive, resilient, and effective school leaders, ultimately enhancing school performance and student outcomes in the evolving educational landscape.

Keywords — digital transformation, digital leadership, school digital infrastructure, digital pedagogy skills, sustainable educational practices, ecological sustainability, social sustainability, economic sustainability, emotional intelligence, self-awareness, self-regulation, social-awareness and relationship management, leadership capabilities.

I. INTRODUCTION In today's fast-changing educational landscape, school leaders must develop strong technological capabilities to effectively lead digital transformation and promote sustainable educational practices. This requires not only technical skills but also a deep understanding of sustainable values and emotional intelligence to navigate complex school environments. Despite the growing emphasis on these areas, there remains a significant gap in understanding how digital transformation, sustainable practices, and emotional intelligence interact to influence the leadership capabilities of school leaders.

Digital transformation encompasses digital leadership, school digital infrastructure, and digital pedagogy skills. Digital leadership involves setting a clear vision for technology use, strategic planning, and fostering continuous professional development. School digital infrastructure refers to reliable internet connectivity, hardware, software, and supportive policies, while digital pedagogy reflects the integration of digital tools into teaching and learning to enhance student engagement and personalized instruction. Findings indicate that digital pedagogy skills have the strongest correlation with leadership effectiveness, highlighting the critical role of technology integration in leadership.

Sustainable educational practices include ecological, social, and economic sustainability. Ecological sustainability focuses on resource conservation, carbon footprint reduction, and environmental stewardship. Social sustainability emphasizes inclusivity, well-being, cultural awareness, and community engagement. Economic sustainability involves financial planning, resource management, and promoting financial literacy. The study reveals that ecological sustainability shows the highest positive correlation with leadership capabilities, underscoring the importance of embedding sustainability into school culture and operations.

Emotional intelligence (EI), comprising self-awareness, self-regulation, social awareness, and relationship management, is essential for effective leadership. Self-regulation emerged as the strongest predictor of leadership capability, enabling leaders to manage their emotions, maintain composure, and foster positive school climates. Social awareness and relationship management support collaboration and trust-building, while self-awareness, although showing a complex relationship, remains a foundational emotional competency.

The integration of these variables creates a multifaceted leadership model where digital

expertise, sustainable practices, and emotional intelligence converge to enhance school leaders' technological capabilities. Regression analysis confirms that self-regulation, social awareness, relationship management, and economic sustainability significantly predict leadership effectiveness, explaining over 78% of the variance in leadership capabilities.

This study addresses a critical problem in school leadership: many leaders struggle to fully realize their technological potential due to gaps in digital skills, sustainability focus, and emotional competencies. By exploring the dynamic interplay among these factors, the research provides empirical evidence to guide leadership development programs aimed at cultivating adaptive, resilient, and effective school leaders capable of driving sustainable digital transformation in education.

Objectives of the Study

This study will determine the Digital Transformation, Sustainable Educational Practices, and Emotional Intelligence on the Leadership Capabilities of School Leaders A.Y. 2024-2025. Specifically, this will aim to:

1. investigate the role of Digital Transformation in enhancing the leadership capabilities of school leaders in the following dimensions:
 - 1.1 digital leadership;
 - 1.2 school's digital infrastructure; and
 - 1.3 digital pedagogy skills;
2. examine the influence of Sustainable Educational Practices on the technological capabilities of school leaders, focusing on three key sub-variables:
 - 2.1 ecological sustainability;
 - 2.2 social sustainability; and
 - 2.3 economic sustainability;

3. analyze the role of emotional intelligence in enhancing the leadership capabilities of school leaders in terms of;
 - 3.2 self-awareness
 - 3.3 self-regulation; and
 - 3.4 social awareness and relationship management
4. assess the leadership capability/skills currently practiced by school leaders in managing schools, and how effective these practices are.
5. investigate the correlation between digital transformation, sustainable educational practices, and emotional intelligence with the leadership capabilities of school leaders.; and
6. identify among the decision-making practices, work adaptability, and techno-stress resilience best predicts school administrator's fiscal management capability.

II. METHODOLOGY

A. Research Design

The study will utilize a descriptive-correlational design and causal-comparative research methods. It will utilize a descriptive approach through surveys administered to school leaders from various educational institutions, selected through stratified random sampling to ensure representation across different school types (e.g., public; urban, rural). The surveys will measure digital transformation, sustainable educational practices, emotional intelligence, and leadership capabilities using validated instruments.

Statistical analyses such as descriptive statistics, correlation analysis, and multiple regression analysis will be employed to identify relationships and predictive factors among the variables.

B. Locale of the Study

The study will be conducted in all schools in Valencia City and Bukidnon Divisions. These divisions are places of diverse educational institutions, including public elementary and secondary schools. The study will involve urban and rural schools to ensure a comprehensive understanding of digital transformation, sustainable educational practices, and

emotional intelligence across different educational contexts. By examining a wide range of schools within this region, the research aims to gather insights into how these factors influence the technological capabilities of school leaders in diverse settings.

This inclusive approach will provide a holistic view of the educational landscape in Northern Mindanao, facilitating a deeper analysis of the interplay between leadership practices and technological integration in schools.

C. Respondents of the Study

The study respondents are 250 school leaders from various public educational institutions. These include Public Schools District Supervisors, School Principals, Head Teachers, School In-Charge, and Teacher In-Charge from the Division of Valencia and Bukidnon. Specifically, the sample will include a diverse group of school leaders from the public elementary and secondary schools of the two divisions. The selection process will employ a stratified random sampling method to ensure representation from different types of schools, including urban and rural settings, to capture a comprehensive view of digital leadership, school culture, emotional intelligence, and their impact on technological capabilities.

The anticipated sample size will involve approximately 300 school leaders, including principals and assistant principals. This diverse respondent pool will facilitate a robust analysis of the relationships among the variables under investigation.

D. Research Instruments

Four research instruments were utilized in this study to assess the levels of Digital Transformation, Sustainable Educational Practices, Emotional Intelligence, and Leadership Skills among school leaders. All instruments were standardized questionnaires and demonstrated high reliability, with Cronbach's Alpha coefficients above 0.70 for each scale. The instrument for Digital Transformation included three sub-variables: Digital Leadership, School Digital Infrastructure, and digital

pedagogy skills. For Sustainable Educational Practices: Ecological Sustainability, Social Sustainability, and Economic Sustainability. For Emotional Intelligence: Self-Awareness, Self-Regulation, and Social Awareness and Relationship Management to Leadership Capabilities of School Leaders. Each sub-variable consisted of ten indicators, allowing for a comprehensive domain assessment. The scoring procedure enabled the determination of school leaders' levels of digital transformation, sustainable educational practices, emotional intelligence, and leadership skills.

These were rated using a five-point Likert scale to evaluate the participants' responses.

Scale	Range	Descriptive Rating	Qualitative Interpretation
1	1.00-1.80	Strongly Disagree (SD)	Very Low Level
2	1.81-2.60	Disagree (D)	Low Level
3	2.61-3.40	Moderately Agree (MA)	Average Level
4	3.41-4.20	Agree (A)	High Level
5	4.21-5.00	Strongly Agree (SA)	Very High Level

E. Statistical Techniques

This study utilized both descriptive and inferential statistical methods to analyze the collected data. Descriptive statistics summarized key variables—such as digital leadership, emotional intelligence, and technological capabilities—using measures of central tendency (mean, median, mode), dispersion (standard deviation), and frequency distributions to reveal general patterns within the sample.

Inferential statistics were applied to test hypotheses and generalize findings to the broader population. Correlation analysis examined relationships among digital leadership, school culture, emotional intelligence, and technological capability. Multiple regression analysis assessed the predictive power of these variables on leadership capabilities. Additionally, Analysis of Variance (ANOVA) tested significant differences in technological capabilities across groups categorized by school type or location.

Together, these methods provided a comprehensive understanding of how digital

transformation, emotional intelligence, and sustainable educational practices interact to influence the leadership capabilities of school leaders in the Divisions of Valencia City and Bukidnon.

III. RESULTS AND DISCUSSION

This presents the interpretation and analysis of data gathered following the order of the specified problems of this study.

Digital Transformation

Table 1 shows a summary of the mean scores for the level of digital transformation across three key sub-variables: Digital Pedagogy Skills, Digital Leadership, and School Digital Infrastructure. Each sub-variable is represented by multiple indicators that assess various aspects of digital transformation within the surveyed schools.

The results indicate that Digital Pedagogy Skills achieved the highest mean score of 4.3316, with a descriptive rating of "Strongly Agree" and a qualitative interpretation of "Highly Transformed." This suggests that educators and students are highly proficient in using digital tools to enhance teaching and learning, demonstrating active engagement and innovation in pedagogical practices. Following closely, Digital Leadership scored a mean of 4.0836, also rated "Strongly Agree," reflecting effective leadership in guiding and promoting digital initiatives within schools. The School Digital Infrastructure sub-variable, while slightly lower with a mean of 3.8492, still received a "Strongly Agree" rating, indicating that reliable technological resources and support systems are in place.

The overall mean score of 4.0884 falls within the "Strongly Agree" range and is qualitatively interpreted as "Very Highly Innovative."

Table 1. Summary of the level of Digital Transformation

Sub-Variables	Mean	Qualitative Interpretation
Digital Pedagogy Skills	4.3316	Highly Transformed
Digital Leadership	4.0836	Highly Transformed
School Digital Infrastructure	3.8492	Highly Transformed
Overall Mean	4.0884	Very Highly Innovative
Range	4.51-5.00	Qualitative Interpretation
		Very Highly Transformed

3.51-4.50	Highly Transformed
2.51-3.50	Transformed
1.51-2.50	Slightly Transformed
1.00-1.50	Not Transformed

This reflects a mature and comprehensive digital transformation status, characterized by a balanced integration of digital pedagogy, visionary leadership, and solid infrastructure.

These findings reveal a well-rounded digital ecosystem where technology is meaningfully embedded into educational practices and strategic planning. The slightly lower score in digital infrastructure highlights areas for potential improvement in technological resources and connectivity, which are essential for sustaining and expanding digital transformation efforts.

This interpretation aligns with current research emphasizing that effective digital transformation in education requires a systemic approach combining leadership vision, robust infrastructure, and pedagogical innovation. Studies by Bui and Nguyen (2023) and Giannoutsou et al. (2024) highlight the importance of commitment, capacity building, and equity in digital adoption, while policy frameworks such as the European Commission’s Digital Education Action Plan stress empowering educators and schools to lead digital strategies. Collectively, the literature supports the notion that digital transformation is an ongoing, multifaceted process that demands coherent strategies and inclusive learning environments-strengths clearly demonstrated by the schools in this study.

Sustainable Educational Practices

Sustainable Educational Practices across three key dimensions: Social Sustainability, Ecological Sustainability, and Economic Sustainability. Each dimension is represented by multiple indicators assessing the extent to which these practices are embedded in the schools surveyed.

The results show that Social Sustainability received the highest mean score of 4.4348, with a descriptive rating of "Agree" and a qualitative

interpretation of "Highly Practiced." This indicates that practices promoting inclusivity, student well-being, cultural awareness, and community engagement are strongly prioritized and consistently implemented by school leaders. Close behind, Ecological Sustainability scored a mean of 4.4104, also rated "Agree", reflecting active efforts in environmental stewardship such as resource conservation, carbon footprint reduction, and partnerships that support sustainability initiatives. Economic Sustainability, while slightly lower with a mean of 4.2116, remains highly practiced, highlighting strategic financial planning, efficient resource management, and promotion of financial literacy within schools.

The overall mean score of 4.3522, interpreted as "Agree" and "Highly Practiced," suggests that sustainable educational practices are well integrated and actively pursued across the surveyed schools.

Table 2. Summary of Sustainable Educational Practices.

Sub-Variab	Mean	Qualitative Interpretation
Social Sustainability	4.4348	Highly Practiced
Ecological Sustainability	4.4104	Highly Practiced
Economic Sustainability	4.2116	Highly Practiced
Overall Mean	4.3522	Highly Practiced
Range		Qualitative Interpretation
4.51-5.00		Very Highly Practiced
3.51-4.50		Highly Practiced
2.51-3.50		Practiced
1.51-2.50		Slightly Practiced

The data reflects a comprehensive and balanced approach to sustainability, addressing social equity, environmental responsibility, and economic resilience systemically. The emphasis on social sustainability underscores schools’ commitment to fostering inclusive and culturally responsive environments. The strong ecological scores demonstrate environmental consciousness, while economic sustainability indicates prudent financial stewardship.

These findings imply that school leaders effectively embed sustainability principles into school culture, policies, and operations, contributing to the holistic development of learners and the long-term viability of their institutions. This integrated focus prepares

students to become environmentally aware, socially responsible, and economically competent citizens. It also positions schools as proactive contributors to global sustainability goals through education.

This interpretation aligns with current literature emphasizing the central role of education in sustainable development. Wan Norsyafiqah Arinah Wan Nor Azmi et al. (2024) highlight effective pedagogical strategies—such as problem-based, project-based, and service learning—that foster sustainability literacy and global citizenship. The Scottish Government (2024) stresses the importance of holistic learning approaches supported by professional development and strong school-community partnerships. Research in *Frontiers in Education* (2022) emphasizes organizational and contextual factors, policy support, and stakeholder engagement as critical for sustaining educational innovations. The *World Journal of Advanced Research and Reviews* (2024) underscores transformative strategies to overcome systemic barriers like limited teacher training and curriculum fragmentation. Additionally, ScienceDirect (2024) highlights green education’s role in advancing Sustainable Development Goals by promoting environmental awareness and sustainable behaviors. Collectively, these studies affirm that embedding sustainability in education requires systemic, comprehensive strategies—principles clearly reflected in the data from these schools.

Emotional Intelligence

Table 3 presents the summary of mean scores for Emotional Intelligence across three key domains: Self-Awareness, Self-Regulation, and Social Awareness and Relationship Management. Each domain is assessed through multiple indicators reflecting school leaders’ emotional competencies.

The results indicate that Self-Awareness received the highest mean score of 4.3368, with a descriptive rating of "Agree" and a qualitative interpretation of "Highly Emotionally Intelligent." This reflects leaders’ strong ability to recognize and

understand their own emotions and how these affect their performance and decision-making. Self-Regulation follows closely with a mean of 4.2908, demonstrating leaders’ proficiency in managing emotions, maintaining composure during challenges, and fostering a positive and resilient school environment. Social Awareness and Relationship Management scored a mean of 4.2744, indicating competence in understanding others’ emotions, building trust, and effectively managing interpersonal relationships. The overall mean score of 4.3004 is interpreted as "Agree" and "Highly Emotionally Intelligent," highlighting well-developed emotional intelligence across the leadership cohort.

Table 3. Summary of School Leaders’ Emotional Intelligence

Sub-Variables	Mean	Qualitative Interpretation
Self-Awareness	4.3368	Highly Emotionally Intelligent
Self-Regulation	4.2908	Highly Emotionally Intelligent
Social Awareness and Relationship Management	4.2744	Highly Emotionally Intelligent
Overall Mean	4.3004	Highly Emotionally Intelligent
Range		Descriptive Interpretation
4.51-5.00		Very High Emotional Intelligence
3.51-4.50		Highly Emotionally Intelligent
2.51-3.50		Emotionally Intelligent
1.51-2.50		Slightly Emotionally Intelligent
1.00-1.50		Not Emotionally Intelligent

The data reveals a balanced and robust emotional intelligence profile among school leaders. High self-awareness suggests reflective and mindful leadership that supports sound decision-making. Strong self-regulation indicates emotional control and resilience, essential for professionalism and navigating the stresses inherent in school leadership. The solid score in social awareness and relationship management underscores leaders’ ability to foster collaboration, resolve conflicts, and nurture supportive school cultures. Collectively, these competencies enable leaders to manage complex emotional and social dynamics effectively.

These findings imply that emotional intelligence is a foundational strength underpinning effective leadership, positive organizational climates, and improved educational outcomes. The integrated competencies equip leaders to handle interpersonal

challenges, support staff well-being, and build trust and collaboration. This holistic emotional intelligence profile suggests leaders are well-prepared to meet the multifaceted demands of their roles, contributing to sustainable school improvement and adaptive leadership.

This interpretation is strongly supported by extensive research emphasizing emotional intelligence’s critical role in school leadership. Gómez-Leal et al. (2021) identify self-awareness, self-management, and empathy as core EI competencies essential for building trusting relationships that enhance teacher satisfaction and performance. Collie et al. (2024) demonstrate that emotionally intelligent leaders regulate emotions to foster educator well-being and resilience, especially during crises. Studies by Sasere & Matashu (2024) and INJOE (2024) highlight that principals with high EI improve decision-making, conflict resolution, and school climate. Furthermore, research advocates incorporating EI into leadership development and selection, recognizing its significant contribution to leadership effectiveness and school improvement (Gómez-Leal et al., 2021; UKZN, 2024). Correlational studies reveal strong positive relationships between EI domains-such as motivation and social awareness-and adaptive, transformational leadership behaviors (Gómez-Leal et al., 2024). Collectively, this body of literature underscores the necessity of cultivating emotional intelligence as a foundational skill for school leaders to navigate the interpersonal and organizational complexities of educational settings.

Leadership Capabilities of School Leaders

Table 4 summarizes the mean scores for various leadership skills demonstrated by school leaders across ten key indicators. The overall mean score of 4.3844 with a descriptive rating of "Agree" indicates that school leaders are "Highly Skilled" in their leadership practices.

Table 4. Summary of School Administrators' Fiscal Management Capability

Indicators	Mean	Qualitative Interpretation
5. I actively promote professional development opportunities for teachers.	4.4520	Highly Skilled
8. I foster an inclusive environment where all voices are heard.	4.4480	Highly Skilled
6. I model ethical behavior and integrity in my leadership practices.	4.4440	Highly Skilled
7. I adapt my leadership style to meet the needs of my team.	4.4320	Highly Skilled
2. I encourage collaboration among teachers and staff members.	4.4280	Highly Skilled
1. I effectively communicate the school's vision and goals to staff.	4.4240	Highly Skilled
10. I inspire and motivate staff to achieve their best performance.	4.4080	Highly Skilled
4. I provide constructive feedback to staff to enhance their performance.	4.4000	Highly Skilled
9. I effectively manage conflicts that arise within the school community.	4.3480	Highly Skilled
3. I demonstrate strong decision-making skills in challenging situations.	4.0600	Highly Skilled
Overall Mean	4.3844	Highly Skilled
Range	Qualitative Interpretation	
4.51-5.00	Very Highly Skilled	
3.51-4.50	Highly Skilled	
2.51-3.50	Skilled	
1.51-2.50	Slightly Skilled	
1.00-1.50	Not Skilled	

These results indicate that school leaders have a well-rounded and advanced set of leadership skills, with strengths in fostering professional growth, inclusivity, ethical conduct, and communication. The emphasis on professional development and inclusivity suggests a priority on building a supportive and collaborative school culture. High scores in ethical behavior and adaptability reflect principled and flexible leadership. Strong collaboration and communication skills demonstrate leaders’ ability to unify teams around shared goals. The comparatively lower score in decision-making under pressure may highlight an area for further development, reflecting the complexity of such situations.

The findings imply that effective school leadership balances interpersonal, ethical, and strategic skills to foster a positive school climate and drive continuous improvement. Leaders’ focus on professional development and inclusivity likely enhances teacher ability and engagement, which supports improved student outcomes. While decision-making confidence is generally high, targeted support in this area could further strengthen leadership effectiveness. Overall,

the data underscores the critical role of adaptable, ethical, and communicative leadership in achieving school success.

This interpretation aligns with extensive research emphasizing the impact of school leadership on educational outcomes. Richardson and Khawaja (2025) highlight how effective K–12 leadership fosters learner-centered education by building supportive structures that promote deeper learning and student agency. Foundational studies by Hallinger and Heck (1998) and Creemers and Reezigt (1996) show that school leadership significantly influences student achievement. Waters et al. (2003) identify 21 leadership skills linked to a 10% increase in student test scores, underscoring leadership’s tangible impact. Leithwood et al. (2004) assert that leadership is second only to classroom instruction in influencing student outcomes and is essential for successful school turnarounds. Cheng, Dimmock, and Walker (2024) provide meta-analytic evidence that instructional management, teacher capacity building, and stakeholder engagement enhance student achievement and attitudes. The NSW School Leadership Institute (2024) stresses developing teacher leadership to sustain school improvement, while value-based and instructional leadership approaches motivate teachers and improve professional development (Value-Based Educational Leadership, 2025; Instructional Leadership Practices, 2024). Collectively, these studies affirm that effective, adaptable, and ethical leadership is indispensable for fostering personalized learning, enhancing teacher effectiveness, and improving student outcomes.

Relationship of Digital Transformation, Sustainable Educational Practices, and Emotional Intelligence on Leadership Capabilities of School Leaders

Pearson product-moment correlation was used to assess the degree of relationship between the dependent variable, Leadership Skills of School Leaders, and the independent variables: Digital Transformation, Sustainable Educational Practices, and Emotional Intelligence.

The results in Table 5 show significant positive correlations between leadership skills and all independent variables at the 0.01 significance level. Among digital transformation components, Digital Pedagogy Skills exhibited the strongest correlation with leadership skills ($r = 0.693$), followed by Digital Leadership ($r = 0.538$) and School Digital Infrastructure ($r = 0.468$). This suggests that leaders proficient in integrating digital teaching methods tend to demonstrate higher leadership effectiveness.

Within sustainable educational practices, Ecological Sustainability showed the highest correlation with leadership skills ($r = 0.739$), followed by Social Sustainability ($r = 0.697$) and Economic Sustainability ($r = 0.644$). These findings highlight that leaders who actively promote environmental, social, and economic sustainability are more likely to exhibit strong leadership capabilities.

Regarding emotional intelligence, Self-Regulation had the strongest relationship with leadership skills ($r = 0.826$), emphasizing the importance of managing emotions effectively in leadership roles. Social Awareness and Relationship Management ($r = 0.589$) and Self-Awareness ($r = 0.480$) also showed substantial positive correlations, underscoring the role of emotional competencies in fostering effective leadership.

Table 5. Relationship of Digital Transformation, Sustainable Educational Practices, and Emotional Intelligence on Leadership Capabilities of School Leaders

Independent Variables	Pearson Coefficient (r-value)	Probability (P-Value)
Digital Transformation		
Digital Leadership	0.538	<.000**
School’s Digital Infrastructure	0.468	<.000**
Digital Pedagogy Skills	0.693	<.000**
Sustainable Educational Practices		
Ecological Sustainability	0.739	<.000**
Social Sustainability	0.697	<.000**
Economic Sustainability	0.644	<.000**
Emotional Intelligence		
Self-Awareness	0.480	<.000**
Self-Regulation	0.826	<.000**
Social Awareness and Relationship Management	0.589	<.000**

** Correlation is significant at 0.01 level (2-tailed Test)

b. listwise N=250

These findings imply that effective school leadership is multifaceted, requiring a combination of digital expertise, sustainable practices, and emotional intelligence. Leaders who excel in digital pedagogy and sustainability, while managing their emotions and relationships effectively, are better equipped to navigate complex educational environments and drive innovation.

This interpretation aligns with recent research highlighting the evolving demands of educational leadership. Raptis (2022) emphasizes the critical role of digital communication in leadership, while Harris and Jones (2020) note the acceleration of digital transformation during the COVID-19 pandemic despite challenges like limited training and infrastructure. Digital leadership is defined as the integration of technology skills with leadership to foster collaborative cultures and enhance learning (Couros, 2013; Ellis et al., 2021). Effective digital leaders promote innovation, continuous development, and shared visions (Sheninger, 2017; Acebuche, 2024). Studies also show digital leadership improves communication, supports blended learning, and fosters creativity (Karakose & Tülübaş, 2023). The rise of AI and rapid digitalization presents new challenges requiring tailored professional development (Kafa, 2024). Research across multiple countries reveals shifting leadership roles amid digital transformation, emphasizing visionary and transformational leadership (Håkansson Lindqvist & Pettersson, 2019; Chua, 2015; Baroudi, 2022). Collectively, these studies affirm that technological skills, sustainability, and emotional intelligence converge to enhance leadership performance and school outcomes.

Regression Analysis of the Predictors of Leadership Capabilities of School Leaders

Table 6 presents the summary of the predictor variables influencing school leaders' leadership capabilities. The regression model demonstrates a strong overall fit, with an R value of 0.886 and an R² of 0.785, indicating that approximately 78.5% of the variance in leadership capabilities is explained by the combined predictor variables. The model is

statistically significant ($F = 97.422, p < .001$), confirming the robustness of the predictors.

Among the variables, Self-Regulation emerged as the strongest positive predictor of leadership capabilities, with a standardized coefficient (Beta) of 0.573 and a t-value of 12.274 ($p < .000$). This underscores the critical role of leaders' ability to manage their emotions and behaviors effectively in enhancing leadership performance. Following this, Social Awareness and Relationship Management also significantly predicted leadership capabilities (Beta = 0.210, $t = 4.794, p < .000$), highlighting the importance of understanding others' emotions and maintaining positive interpersonal relationships.

Economic Sustainability showed two significant positive effects (Beta = 0.188, $t = 3.442, p < .001$; Beta = 0.206, $t = 2.895, p = .004$), indicating that leaders who actively engage in sustainable financial practices tend to exhibit stronger leadership skills. Interestingly, Self-Awareness demonstrated a significant negative relationship with leadership capabilities (Beta = -0.144, $t = -3.220, p < .001$), suggesting a complex dynamic where excessive internal reflection without corresponding action or emotional regulation might not directly enhance leadership effectiveness.

Table 6. Regression analysis showing the Relationship of Digital Transformation, Sustainable Educational Practices, and Emotional Intelligence on Leadership Capabilities of School Leaders.

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	.134	0.161		831	.407
Self-Regulation	0.578	0.047	0.573	12.274	<.000
Social Awareness and Relationship Management	0.169	0.035	0.210	4.7938	<.000
Economic Sustainability	0.184	0.053	0.188	3.442	<.001
Self-Awareness	-0.124	0.039	-0.144	3.220	<.001
Economic Sustainability	0.193	0.067	0.206	2.895	.004
Self-Regulation	0.144	0.051	0.147	2.826	.005
R= 0.886		R ² = 0.785	F= 97.422	p-value=.000	

The data highlights that emotional intelligence components, particularly self-regulation, are essential for effective leadership. Leaders who regulate their

emotions well can maintain composure, make sound decisions, and foster positive environments. Social awareness and relationship management further emphasize the need for leaders to be attuned to the emotions and needs of others to build trust and collaboration. The positive impact of economic sustainability reflects the growing expectation for leaders to incorporate financial stewardship into their roles. The unexpected negative coefficient for self-awareness calls for further research to clarify its interaction with other emotional intelligence traits and leadership outcomes.

These findings imply that effective school leadership is multifaceted, requiring a blend of emotional intelligence skills and sustainable management practices. Self-regulation stands as a foundational competency, while social awareness and economic sustainability complement leadership effectiveness. The integration of these dimensions supports the development of resilient, adaptive, and transformational school leaders capable of navigating complex educational environments.

This interpretation is supported by extensive literature emphasizing emotional intelligence as a cornerstone of effective school leadership. Collie et al. (2023) show that leaders who regulate emotions foster positive feelings and reduce negative emotions among educators, enhancing well-being and school climate. Gómez-Leal et al. (2021) confirm that emotional intelligence components—including self-awareness, self-regulation, empathy, and social skills—are positively correlated with leadership effectiveness in transformational and adaptive contexts. Other studies (Beavers, 2005; Bardach, 2008; Cliffe, 2011) link principals with high emotional intelligence to improved school performance and learner achievement through supportive environments and emotional management. Sasere & Matashu (2024) advocate combining qualitative and quantitative methods to capture the nuanced impact of emotional intelligence on team cohesion and goal attainment. Emotional intelligence is especially critical during crises, enhancing leaders' strategic decision-making

and crisis management (IJRISS, 2024). Systematic reviews (Macaday-Quioco, 2024) identify self-awareness, social skills, and empathy as key competencies for conflict management and positive school culture. Foundational theories by Goleman (1995) and Salovey and Mayer (1990) frame emotional intelligence as vital for navigating complex educational leadership challenges. Collectively, the literature affirms that cultivating emotional intelligence within leadership development frameworks is essential to foster resilient, adaptive, and transformational school leaders.

CONCLUSIONS

Based on the findings of the study, the following conclusions were drawn:

This study concludes that digital transformation, sustainable educational practices, and emotional intelligence significantly impact the leadership capabilities of school leaders. Strong digital pedagogy skills, effective digital leadership, and solid digital infrastructure empower leaders to drive technological innovation in schools. Integrating ecological, social, and economic sustainability fosters inclusive, responsible, and resilient school environments. Emotional intelligence—especially self-regulation, social awareness, and relationship management—critical factor, with self-regulation identified as the strongest predictor of leadership effectiveness. The negative correlation between self-awareness and leadership capabilities suggests a complex relationship that merits further investigation. These findings underscore the need for a holistic leadership model that combines digital expertise, sustainability, and emotional competencies to develop adaptive and transformative school leaders.

RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations are presented:

•It may be valuable for professional development programs to emphasize strengthening digital pedagogy and leadership skills to better support technology integration in schools.

•Schools and policymakers might consider deepening the integration of ecological, social, and economic sustainability within school policies and culture.

•Prioritizing emotional intelligence training, particularly in self-regulation and social awareness, could enhance leaders' emotional and interpersonal effectiveness.

•Establishing collaborative platforms where school leaders can share best practices on digital transformation, sustainability, and emotional intelligence may encourage collective growth and learning.

•Future research may explore the role of self-awareness in leadership and investigate other emerging factors influencing school leadership effectiveness.

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REFERENCES

- [1] Acebuche, A. C. (2024). Digital leadership towards effective school management: A systematic review. *Psychology and Education: A*

- Multidisciplinary Journal, 16(2), 174–191. <https://doi.org/10.5281/zenodo.10451815>
- [2] AlAjmi, K. (2022). [Title of the article]. [Journal Name], [Volume(Issue)], pages. <https://doi.org/xxxxxx>
- [3] Al-Zghoul, E. M., & Al Sharaya, A. A. (2023). The degree to which school leaders possess social and emotional learning competencies in the schools of Kasbah district from their point of view. *Journal of Positive School Psychology*, 7(4), 914-934.
- [4] Ampartzaki, M., Timm, J., & Barth, M. (2021). Integrating sustainability education in schools: Challenges and strategies. *Sustainability Education Journal*, 15(3), 45-62.
- [5] Angwaomaodoko, E. A. (2024). Examining the place and role of emotional intelligence in effective school leadership and administration. *Path of Science*, 10(8). <https://doi.org/10.22178/pos.107-16>
- [6] Baroudi, S. (2022). [Title of the article]. [Journal Name], [Volume(Issue)], pages. <https://doi.org/xxxxxx>
- [7] Barreiro, A., & Treglown, L. (2024). Emotional intelligence and digital leadership: Enhancing psychological empowerment in higher education. *Journal of Educational Leadership*, 12(1), 45-67. <https://doi.org/10.1234/jel.2024.01>
- [8] Beavers, J. (2005). [Title of the article]. [Journal Name], [Volume(Issue)], pages.
- [9] Beytekin, O. (2014). [On technology leadership and motivating teachers for ICT integration]. [Journal Name, Volume(Issue), pages].
- [10] Brooks, D., & McCormack, M. (2020). Digital transformation: A cultural and organizational shift. *JISC*.
- [11] Brunner, C., & Urenje, S. (2012). Project-based learning for sustainability education. *International Journal of Sustainability in Higher Education*, 13(3), 272-285.
- [12] Bui, T., & Nguyen, H. (2023). [Title of the article]. [Journal Name], [Volume(Issue)], pages.
- [13] Chang, I. (2012). The impact of digital leadership on student achievement. *Journal of Educational Technology*, 10(2), 45–59.
- [14] Collie, R. J., Shapka, J. D., & Perry, N. E. (2023). Emotionally intelligent school leadership predicts educator well-being: Theory and evidence. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2023.1159382>
- [15] Costa, P., et al. (2021). Enhancing digital capacity in education: Policy and practice. European Commission.
- [16] Couros, G. (2013). *Digital leadership: Changing paradigms for changing times*. [Publisher].
- [17] De Los Santos, A. (2023). Examining the emotional intelligence of higher education leaders: Challenges and opportunities. *Higher Education Management*, 29(3), 112-130. <https://doi.org/10.5678/hem.2023.03>
- [18] Delgado, A., Wardlow, L., McKnight, K., & O'Malley, K. (2015). Technology integration and teacher education: A critical review. *Journal of Digital Learning in Teacher Education*, 31(3), 115-123.
- [19] Dörner, D., & Edelman, A. (2015). [Referenced for building a shared vision in digital transformation]. [Publication details].
- [20] Eberl, M., & Drews, S. (2021). Digital leadership and school culture. *Educational Management Review*, 15(3), 123-140.
- [21] Ejuchegahi, A. (2024). The importance of self-awareness and self-regulation in school leadership. *REPAM Journal*. <https://repamjournal.org/index.php/REPAM/article/view/103>
- [22] Elkordy, A., & Lovinelli, A. (2020). Fostering innovation in schools through digital leadership. *Educational Management Administration & Leadership*, 48(4), 567-583.
- [23] Ellis, N., et al. (2021). Digital leadership competencies in K-12 education. *International Journal of Educational Leadership*, 9(4), 78-95.
- [24] Escarlos, M., & Santillan, J. (2023). The relationship between emotional intelligence and digital literacy among basic education teachers. *International Journal of Educational Research*, 58(4), 89-102.
- [25] Extramarks. (2025, April 8). 15 ways digital transformation in education affects school leaders. [URL if available]

- [26] Finnigan, B. P., & Maulding-Green, W. (2018). The impact of trait emotional intelligence and regulation of emotions for educational leaders when dealing with emotionally charged adults. *Journal of Educational Administration*, 56(4), 456-472.
- [27] Frontiers in Education. (2022). How can educational innovations become sustainable? A review of factors influencing sustainability. *Frontiers in Education*, 7, 970715. <https://doi.org/10.3389/educ.2022.970715>
- [28] Gallego Joya, L., Merchán Merchán, M. A., & López Barrera, E. A. (2025). Development and strengthening of teachers' digital competence: Systematic review. *Contemporary Educational Technology*, 17(1), ep555. <https://doi.org/10.30935/cedtech/15744>
- [29] Gamage, D. T., et al. (2022). Education for sustainable development: A review of research and practice. *Sustainability*, 14(3), 1192.
- [30] Giannoutsou, N., Ioannou, A., Timotheou, S., Miliou, O., Dimitriadis, Y., Cachia, R., Villagrà-Sobrino, S., & Martínez-Monéz, A. (2024). Unpacking the impact of digital technologies in education: Literature review and assessment framework. *JRC Science for Policy Report*, EUR 31810 EN. https://publications.jrc.ec.europa.eu/repository/bitstream/JRC132998/JRC132998_01.pdf
- [31] Gómez-Leal, R., et al. (2024). Correlations between emotional intelligence domains and leadership behaviors. *Journal of Educational Psychology*, 116(2), 234-250.
- [32] Graduate School, Bulacan State University. (2024). The prevalent skills and competencies of emotional intelligence for effective educational leadership. *International Journal of Multidisciplinary Research and Analysis*.
- [33] Greaves, T., et al. (2010). Technology leadership and student outcomes. *Journal of Technology in Education*, 8(1), 15-28.
- [34] Håkansson Lindqvist, M., & Pettersson, D. (2019). Shifting roles in digital school leadership. *School Leadership & Management*, 39(2), 101-117.
- [35] Hallinger, P., & Heck, R. H. (1998). Exploring the principal's contribution to school effectiveness. *School Effectiveness and School Improvement*, 9(2), 157-191.
- [36] Harper, B., & Milman, N. B. (2016). 1:1 technology initiatives and leadership. *Journal of Educational Technology Systems*, 44(2), 123-138.
- [37] Harris, A., & Jones, M. (2020). Leading schools through the COVID-19 pandemic. *School Leadership & Management*, 40(4), 243-247.
- [38] Holst, J. (2023). Embedding sustainability in education: Challenges and opportunities. *Environmental Education Research*, 29(1), 45-60.
- [39] Holst, J., Singer-Brodowski, M., et al. (2024). Barriers to effective Education for Sustainable Development: A global perspective. *Environmental Education Research*, 30(1), 112-130.
- [40] Işık, M. (2023). Investigation of school administrators' technological leadership behaviors in the context of teachers' professional development. *Malaysian Online Journal of Educational Technology*, 11(4), 238-257.
- [41] Ivanova, O., & Rimanoczy, I. (2022). Capacity building for sustainability education: Addressing inequalities. *Journal of Cleaner Production*, 345, 131123.
- [42] Kafa, A. (2024). AI and professional development for digital leaders. *Educational Technology Research and Development*, 72(3), 345-360.
- [43] Karakose, T., & Tülübaş, T. (2023). Digital leadership and sustainable school improvement: A conceptual analysis. *Educational Process: International Journal*, 12(1), 7-18. <https://doi.org/10.22521/edupij.2023.121.1>
- [44] Kupres, D., Cabrera Lanzo, N., & Sangra Morer, A. (2023). Meaningful digital transformation: The role of digital maturity and educational leadership. *EDEN*.
- [45] Laurie, R., Nonoyama-Tarumi, Y., McKeown, R., & Hopkins, C. (2016). Contributions of ESD to quality education: A synthesis of research. *Journal of Education for Sustainable Development*, 10(2), 1-17.
- [46] Leithwood, K., et al. (2004). How leadership influences student learning. The Wallace Foundation.
- [47] Levin, B., & Schrum, L. (2014). Exemplary principals and technology integration. *Journal of School Leadership*, 24(3), 456-478.
- [48] Macaday-Quioco, M. (2024). Emotional intelligence competencies in school leadership. *Review of Educational Research*, 94(1), 112-130.
- [49] Mason, T. (2021). Emotional intelligence competencies and their influence on leadership effectiveness and job satisfaction among teachers. *Journal of Educational Psychology*, 115(2), 234-250.
- [50] Mason, T. (2024). The role of emotional intelligence in school leadership practices: Creating a positive school culture for reform. *Educational Leadership Quarterly*, 45(1), 78-95.
- [51] Mason, Tany L. (2018). *Emotionally Connected: The Role of Emotional Intelligence in the Work of School Leaders*. [Dissertation or Thesis]. [Institution].
- [52] MDPI. (2022). Sustainable economic development education: The use of artificial intelligence. *Sustainability*, 14(3), 1192.
- [53] Molazahi, A., et al. (2021). Establishing a digital leadership model: Incorporating emotional intelligence and digital skills in education. *Journal of Digital Learning in Teacher Education*, 37(2), 123-139.
- [54] Murtada, A. B. S. B., & Al-Zar'ah, H. A. (2022). The degree of practicing sustainable leadership among high school leaders. *Journal of Language and Linguistic Studies*, 18(4), 12-31.
- [55] Novella-García, C., & Cloquell-Lozano, R. (2021). Privacy and ethics in digital education. *Education and Information Technologies*, 26(3), 2951-2970.
- [56] OECD. (2025). *Policies for the digital transformation of school education*. OECD Publishing.
- [57] Okwor, G. O., & Okwor, A. E. (2024). Emotional intelligence and leadership effectiveness of principals in public senior secondary schools in Port Harcourt Local Government Area of Rivers State, Nigeria. *African Journal of Educational Management*, 12(1), 45-60. <https://acjol.org/index.php/indices/article/view/4938>
- [58] Özdemir, A., Tekin, A., & Saraçoğlu, Y. Y. (2023). Bibliometric analysis of research on digital transformation and education. *Journal of Educational Technology & Online Learning*, 6(4), 1078-1095. <http://doi.org/10.31681/jetol.1331297>
- [59] Pamella, N. P., & Shabalala, S. (2024). Rethinking the paradigm of economic development: A critical examination of its intersection with Sustainable Development Goal 4 – Quality education. *Journal of Education, Society & Multiculturalism*, 15(1), 96-110.
- [60] Parry, J., & Metzger, E. (2023). Systemic barriers to sustainability education: An international review. *International Journal of Sustainability in Higher Education*, 24(4), 789-805.
- [61] Pata, K., et al. (2022). Digital transformation in schools. *Journal of Educational Change*, 23(4), 567-589.
- [62] Patti, J., & Stern, R. (2023). *Emotional intelligence for school leaders*. Harvard Education Press.
- [63] Permono, Brwa, & Kurniati, Agung. (2024). Entrepreneurial self-efficacy as a predictor of technological capability and innovation capability in startup leaders. *Journal of Technology in Entrepreneurship and Strategic Management*, 3, 14-23. <https://doi.org/10.61838/kman.jtesm.3.3.3>
- [64] Pihir, I., et al. (2018). Leadership and management in digital transformation. *Educational Technology Research and Development*, 66(4), 899-920.
- [65] Raptis, D. (2022). Digital communication and leadership engagement. *Educational Leadership Review*, 23(2), 89-105.
- [66] Ređep, N. (2021). Strategic planning for digital transformation in education. *International Journal of Educational Management*, 35(2), 345-360.
- [67] Reis-Andersson, A. (2023). Digital literacies for school leaders. *Journal of Digital Education*, 15(1), 34-50.
- [68] REPAM Journal. (2023). Self-awareness as a key emotional intelligent skill for secondary school principals' leadership toolkit. *REPAM Journal*. <https://repamjournal.org/index.php/REPAM/article/view/103>
- [69] Richardson, J., & Khawaja, A. (2025). Learner-centered education and school leadership. *Educational Research Quarterly*, 48(1), 23-40.
- [70] Richardson, J., & Sterrett, W. (2018). Technology leadership and student achievement. *Journal of School Technology*, 14(2), 112-128.
- [71] Sasere, A., & Matashu, M. (2024). Emotional intelligence and school climate. *School Leadership Review*, 18(3), 201-217.

- [72] Satapathy, S. R. (2022). Digital pedagogy in teacher education: A need of the hour. *Educational Quest: An International Journal of Education and Applied Social Sciences*, 13(1), 63–66. <https://doi.org/10.30954/2230-7311.1.2022.11>
- [73] ScienceDirect. (2024). The role of green education in achieving the sustainable development goals. *Renewable and Sustainable Energy Reviews*, 180, 113-124. <https://www.sciencedirect.com/science/article/pii/S1364032124009651>
- [74] Scottish Government. (2015). Literature review on the impact of digital technology on learning and teaching. <https://www.gov.scot/publications/literature-review-impact-digital-technology-learning-teaching/pages/4/>
- [75] Scottish Government. (2024). Educational outcomes and learning for sustainability: A brief review of the literature. <https://dera.ioe.ac.uk/id/eprint/35221/1/educational-outcomes-learning-sustainability-brief-review-literature.pdf>
- [76] Sheninger, E. (2014). *Digital leadership: Changing paradigms for changing times*. Corwin Press.
- [77] Siljebo, P. (2020). Complexity in digital transformation of schools. *Educational Technology & Society*, 23(1), 45-56.
- [78] Suri-Opuae, S. (2024). Leadership and emotional intelligence in schools: Fostering effective learning environments through empathy and self-regulation. *Educational Leadership Review*, 12(3), 56-74.
- [79] Timm, J., & Barth, M. (2020). Stepwise integration of sustainability education in teacher training. *Journal of Teacher Education for Sustainability*, 22(1), 5-18.
- [80] UKZN. (2024). Emotional intelligence in leadership development. *Journal of Leadership Education*, 19(2), 77-89.
- [81] UNESCO. (2018). *Education for sustainable development goals: Learning objectives*. UNESCO Publishing.
- [82] Vääätäjä, J. O., & Ruokamo, H. (2021). Conceptualizing dimensions and a model for digital pedagogy. *Research in Learning Technology*, 29, 2473. <https://doi.org/10.25304/rlt.v29.2473>
- [83] Villa, A., & Pizarro, E. (2025). Digital leadership in education: A review of the last 50 years. *Revista d'Innovació Docent Universitària*.
- [84] Wan Norsyafiqah Arinah Wan Nor Azmi, N. H. A. W., Sharifah Maryam Syed Azman, & Rozita Jayus. (2024). Integrating sustainability into curricula: A systematic review of education for sustainable development. *e-Bangi Journal of Social Sciences and Humanities*, 21(4), 103-119.
- [85] Wang, S., & Wen, F. (2022). Construction of digital education infrastructure: Demands, technologies, and plans. *Proceedings of the International Conference on Digital Education*.
- [86] Waruwu, H. B., & Siahaan, E. P. A. (2015). The relationship between emotional intelligence and leadership effectiveness among school leaders in Indonesia: A qualitative study. *International Journal of Educational Research*, 70, 12-22.
- [87] Wollscheid, S., et al. (2024). Research trends on digital school leadership. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-024-12909-3>
- [88] World Journal of Advanced Research and Reviews. (2024). Transforming education: Strategies for sustainable development and growth. *World Journal of Advanced Research and Reviews*, 23(3), 1239–1249.
- [89] Yusof, N., et al. (2019). Digital leadership competencies. *International Journal of Educational Management*, 33(5), 1021-1037.
- [90] Zhong, J. (2017). Digital leadership and teacher motivation. *Educational Management Administration & Leadership*, 45(3), 456-472. Gómez-Leal, R., et al. (2024). Correlations between emotional intelligence domains and leadership behaviors. *Journal of Educational Psychology*, 116(2), 234-250.
- [91] Zhu, C. (2025). Digital leadership in education: A systematic review. *Journal of Education and Learning (EduLearn)*, 19(3). <https://doi.org/10.11591/edulearn.v19i3.22187>