

DIGITAL LEADERSHIP AND ORGANIZATIONAL QUALITY CULTURE IN EDUCATION IN THE ERA OF DISRUPTION

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Abstract

The rapid development of digital technology in the Fourth Industrial Revolution era has encouraged the education sector to transform, especially in terms of leadership. The concept of Digital Leadership emerged as a strategic response to the need for adaptive, innovative, and competitive schools. This study uses a qualitative approach with a case study design (field research). Data were collected through direct observation and document study by reviewing relevant journal articles, books, and policy documents. This study aims to analyze digital leadership in strengthening a culture of quality in education in an era of disruption. The findings show that digital leadership is not only about the use of technology, but also about the ability of school leaders to integrate technology with strategic vision, foster a collaborative culture, and encourage continuous innovation. Digital Leadership plays a key role in improving management effectiveness, accelerating data-driven decision making, and strengthening collaboration between teachers, students, parents, and the community. The gaps in this study are as follows: 1) most previous studies on leadership have focused on conventional or transformational leadership, while studies discussing digital leadership in the context of education are still relatively limited. 2) Studies on digital leadership directly related to the culture of educational quality are still not comprehensive, especially at the implementation level in educational institutions. This research contributes to strengthening a culture of quality through improving learning quality, data-driven decision-making, and creating an open organizational climate oriented towards continuous improvement.

Keywords: *Digital leadership, Organizational culture, Innovation, Strategies*

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INTRODUCTION

The digital transformation we are experiencing has brought about a wide variety of new electronic device technologies that have rapidly changed human activities in various sectors of life (Berampu, 2021). Educational transformation in this era of disruption demands fundamental changes in the implementation of learning, decision-making, and other aspects of education (Walsh, 2010).

In this era of disruption, technological developments and innovations have become a force that undoubtedly impacts our lives today. These developments provide

us with alternatives that enable us to remain productive, creative, innovative, and communicate effectively. Current technological developments are influencing changes in the way humans compare, limit, and perceive complexity, as well as changes that have already occurred. Therefore, in order to predict the future, practical steps or interventions in the change process must encompass a series of actions that can influence relationships, processes, structures, or functions (Pace, 2013). In the world of education, technology is not only a complement, but has become a necessity for learning, improving quality culture, and policy-making by school leaders, so that it is effective, relevant, and adaptive to the needs of the 21st century (Maritsa, U, Wafiq, P, & M, 2021).

The digital era has brought about a fundamental paradigm shift in the educational landscape, forcing organizations to undergo a comprehensive transformation in their structure, processes, and culture (Westerman, 2022). Leadership as a determining factor for an organization in facing complex challenges in setting goals is not only technological in nature, but also involves all aspects such as psychological, social, and strategic (Schwarzmueller, 2021)

In the context of education in today's digital era, there is a need to enhance the role of digital-based leadership, which is expected to provide a new perspective in line with the current organizational culture. Leadership positions must be able to benefit all members of the organization and the wider community, thereby creating an environment that is more adaptable and responsive to change in this era of disruption for the sake of good organizational culture development (Siswadi, 2025).

In the context of education, digital leadership is defined as a person's ability to utilize technology not only in learning, but also in school management, communication, creating a good organizational culture, and decision making. Digital leadership requires digital literacy, collaborative skills, and a strategic vision that is capable of responding to the challenges of disruption (Anwar, 2022). However, in reality, it is often found that not all leaders have the same readiness to implement digital leadership. This can be seen from the gap in the use of technology in educational institutions (Raharjo, 2025).

The problem arises when there is a discrepancy between the many leaders who demand that everyone be capable of implementing digital-based leadership, and the stark reality that many educational institutions still face limitations in terms of human resources, infrastructure, and organizational culture. This hinders innovation in the organizational culture of education and results in low school management effectiveness.

Previous studies have shown that digital-based leadership plays a major role in creating technology-based learning innovations, contributing to increased teacher effectiveness in using educational technology (Gunawan, 2025). In addition, research on digital mindset in school management shows that digital transformation should not stop at the use of technology, but also build an innovative culture (Lazwardi, 2025).

However, in general, research still focuses on the context of general management or the use of technology in learning, while aspects of integration and strategies in promoting a good organizational culture as a whole are still rarely studied, especially in education in Indonesia.

The specific objective of this study is to analyze and describe the strategies and integration of digital-based leadership and educational organizational culture in an era of disruption. This study aims to fill a gap in the academic literature by demonstrating how digital-based leadership, when directed toward improving organizational culture strategies, can successfully have a positive effect within the organization. This study contributes to the understanding of the specific context of digital leadership by highlighting strategies and integration in educational organizational culture.

Ultimately, this study aims to provide insights that can be applied by leaders in the education sector. It also encourages broader rethinking of digital leadership in educational organizational culture, contributing to the innovative development of a well-directed and sound educational organizational culture.

METHOD

This study uses a qualitative type with a case study design (field research), which produces descriptive data in the form of written or spoken words related to observable research variables (Hamzah, 2022). Data was obtained through field observation and documentation studies related to the research title. In qualitative research, the researcher acts as the main instrument who is directly involved in the data collection process (Susanto D. R., 2023).

Data analysis involves three activity streams in the procedure outlined by Miles and Hubberman (Saragih, 2024), which includes three main steps: data reduction, data presentation, and conclusion drawing. In the data reduction stage, researchers analyze interview conversations, observation results, and documentation, then extract the main ideas conveyed by informants. Next, interviews are analyzed with a focus on teacher and parent management in the use of technology as a learning tool. The second stage, data presentation, involves describing information in narrative form tailored to the research objectives. Finally, the conclusion drawing stage in this study was verified based on the interpretation of findings obtained directly from the field through interviews, observations, and documentation to obtain a more comprehensive understanding. The results of the analysis will then be synthesized in a journal article covering the introduction, methodology, results and discussion, and conclusions. Thus, this study is expected to provide useful guidance for education practitioners, parents, and policymakers to optimize their roles in supporting technology-based learning as an effort to increase student learning motivation.

The results of the research were then systematically integrated to construct a conceptual framework capable of describing opportunities and strategic designs for digital leadership and organizational culture in education, as well as providing theoretical and practical contributions to the development of literature on digital-based leadership and educational organizational culture (Rhaysya, 2025).

RESULT AND DISCUSSION

Development of organizational quality culture vision and mission

Rapid digital transformation has brought significant changes in the way we interact, communicate, and socialize. Advancing technology demands changes in various aspects, ranging from infrastructure, policies, vision and mission, to the work culture of educational organizations. The use of digital technology in the education sector has become an integral part of education reform efforts, with the aim of improving efficiency, transparency, and accountability in education (Siswadi., 2025).

Based on research findings, there are four key strategic efforts in digital leadership to build an organizational culture of quality in education. The first effort emphasizes the development of vision and mission. In the world of education itself, most visions and missions are only positioned as administrative documents, without seeing the existing developments in digitalization and their influence on the policies, models, and effectiveness of an educational institution. He said:

"Digital leadership plays a crucial role in shaping the quality culture of school organizations. Through the development of a digital-based and relevant vision and mission, it emphasizes that leaders are entrusted with the same responsibility in guiding, educating, and inspiring the younger generation. According to him, digital leadership is very important in shaping an inclusive organizational environment that is also rooted in a culture of educational quality. By upholding these values, school principals contribute to instilling the importance of education and the organizational environment, which is aligned with the development of the vision and mission" (Karsadi, 2025).

Digital leadership is needed to formulate a vision and mission that is responsive to the challenges of the current era, particularly in facing the acceleration of technological developments, changes in the character of students, and the demand for improvements in the culture of educational quality.

The development of vision and mission is carried out collaboratively with the entire network in an educational institution, involving teachers, educational staff, and stakeholders through the use of digital media. This encourages the creation of a common perception of technology, determines the direction and integration of all aspects of the educational organization's quality culture, strengthens the quality of learning, and integrates digital technology effectively and ethically. This demonstrates a transformation in leadership patterns from instructive to digital leadership.

Digital leadership must be an effective link between various levels in improving organizational quality culture and technology in education. This strategy can be an important aspect in developing an effective vision and mission for educational institutions, so that they are focused and can be properly realized in improving organizational quality culture in educational institutions.

School principals must formulate strategic directions for learning that integrate technologies such as LMS, collaborative platforms, and project-based learning (Arnov 2024) by identifying key strategies such as: developing a digital vision, establishing a technology-based learning culture, improving infrastructure, and adaptive leadership in schools. To achieve this, school principals need to involve the entire school community in developing the vision and mission so that there is shared ownership, and to adapt to local needs and characteristics.

Digital school leadership requires the ability to formulate a clear and transformative vision for digital learning. However, not all school principals are

prepared to develop technology-based strategic directions. This is exacerbated by a lack of conceptual understanding of digital leadership itself. Many principals have not been able to transform their digital vision and mission into managerial practices that have a broad impact on the learning ecosystem in schools (Haris 2022).

In situations like this, it is important for school principals to receive ongoing training and mentoring so that they can internalize the principles of digital leadership. Without capacity-building interventions, the digital vision and mission risk becoming nothing more than administrative jargon without real implementation in classrooms and the school system as a whole.

Digital leadership strategies and organizational quality culture in education are strongly supported by synergy between school principals and external stakeholders (Kasim 2025). External synergy is the foundation of sustainable and effective digital leadership, especially in supporting the development of a digital vision and mission.

In addition, continuous evaluation must be aligned with the implementation of subsequent work plans, including adjustments to the vision and mission, curriculum, technology budget allocation, or continuous professional development for teachers (Susanti 2025).

Therefore, a leader must have a long-term vision and mission, the courage to take steps toward change, and the ability to create a dynamic organizational culture. In this way, digital leadership is not only defined as the use of technology, but as an integral strategy in shaping a competitive, adaptive, and superior school in the digital age.

Improvement of digital literacy and human resources

The limited digital competence of school principals is a major challenge in leading the transformation of learning and the culture of quality in school organizations. Strong leadership requires an understanding of Learning Management Systems (LMS), interactive media, and blended learning strategies. Principals often simply hand over technology management to operators without sufficient strategic involvement (Nurhalimah 2021).



Figure 1: Improvement of Digital Literacy

The leadership of school principals is currently also being tested by low digital literacy. Principals not only play a role as administrative leaders, but also as facilitators of teachers' digital capacity building. Principals must design contextual and sustainable digital training so that the implementation of learning and the improvement of

organizational quality culture can be achieved optimally and sustainably (Zulfikar 2022).

In this effort, school principals also need to establish communication between schools and stakeholders so that support for digitization does not only depend on internal initiatives (Siregar 2021). To that end, school principals must be able to build strategic partnerships and strengthen synergies through coordination forums, digital outreach to teachers and educators, and community involvement in technology literacy programs. Collective support will accelerate holistic and sustainable digital transformation.

The role of digital leadership is also evident in the development of human resource capacity in schools. Principals strive to improve the competence of teachers and staff through digital literacy training, the use of educational software, and the application of innovative learning strategies. With the improvement of teachers' abilities, the quality of the teaching and learning process becomes more creative and relevant to technological developments. This creates a more engaging, personalized, and digitally-oriented educational environment, enabling schools to maintain their competitiveness.

Improving digital literacy and human resources is the second strategy to enhance the organization's culture of quality. Digital leadership must provide space and facilities to improve human resources in the field of technology. It is important to emphasize the improvement of digital literacy and human resources as a strategic effort to strengthen the culture of quality in educational institutions. Principal Karsadi firmly stated:

"For me, improving digital literacy and human resources must always be done as an effort to improve the culture of quality in our school. We always conduct upgrades through workshop training, digital seminars, and comparative studies with other schools or institutions, and I try to adopt programs that can improve digital literacy for myself, teachers, and other educators, in order to build a good culture of quality in the organization" (Karsadi, 2025).

Digital-based leadership in this context needs to adapt this approach to facilitate successful transformation by considering the context and cultural characteristics of each educational institution. This shows that an adaptive organizational quality culture that improves digital literacy and human resources is key to driving the effectiveness of digital-based organizational quality culture transformation. Therefore, digital leadership strategies must be integrated with the process of developing an appropriate organizational culture.

Digital leadership in educational organizational culture emphasizes the readiness of human resources. In this era of disruption, digital leadership must conduct training and development in technological literacy, which is key to optimizing the organization's ability to adapt and compete. Human resource training is no longer just about improving technical skills, but also includes strengthening capacity in digital leadership, virtual collaboration, and data-driven decision making. The use of digital technology in training, such as LMS, E-Learning, and interactive webinars. (Vellycia Dwi Cintia, 2024).

Digital transformation encourages educational institutions to actively equip human resources with new competencies relevant to the digital era. These competencies include basic to advanced digital skills, the ability to adapt to

technological changes and the work environment, creativity in solving problems innovatively, and the ability to collaborate across functions and teams. In addition, organizations also need to encourage the emergence of adaptive and innovative leadership, namely leaders who are able to make strategic decisions in uncertainty and lead teams towards sustainable change (Susanto E., 2024).

The quality culture of school organizations is influenced by the collaborative and synergistic leadership style of school principals. The relationship between school principals, teachers, and educators in the organizational culture can facilitate the improvement of digital literacy among teachers and educators. Therefore, school principals need to actively build digital collaboration values in the organizational quality culture so that technological skills in the organizational culture continue to improve.

With increased digital literacy and human resource development in technology, schools can maintain high standards in organizational quality culture that have implications for daily practices, making it easier to achieve goals through good digital leadership based on training programs, workshops, and internal collaboration.

Strengthening individual competencies through adequate infrastructure

Although technology provides the tools and infrastructure necessary for efficiency, a profound change in work culture is still needed. This transformation of work culture includes changing the mindset of employees, who were previously accustomed to a rigid and centralized way of working, to become more open, collaborative, and results-oriented (Harsoyo, 2022). Organizations need to adapt to a more flexible work pattern based on the use of technology to support faster and more accurate decisions. Leaders within organizations must drive this change by providing clear direction and creating an environment that supports collaboration and innovation, especially in the use of technology (Sulaiman, 2017).

The third strategy is to strengthen individual competencies through adequate infrastructure in order to improve the quality culture of educational organizations. The results show that strengthening individual competencies plays a significant role in improving the quality culture of educational organizations. The individual competencies referred to are pedagogical, professional, social, and personal competencies that are integrated with educational quality values.

Good digital leadership will provide space and facilities for employees to develop their potential through performance reflection, provision of technological infrastructure, adequate internet support, and collaborative learning. This will be reflected in regular performance procedures, consistency in task implementation, and appropriate policy-making. In addition, always take the initiative in making continuous improvements in educational processes and services. This was emphasized by the principal, who said:

“Although not directly involved in the learning process, educational facilities and infrastructure are essential components that play a key role in supporting efforts to strengthen individual competencies as part of improving the quality culture of our educational organizations. Every institution should have adequate infrastructure and sustainable development, so that it becomes an integral part of the organization's quality culture” (Karsadi, 2025).

Funding is often a significant challenge in digital leadership. School principals often lack the flexible budgeting authority to purchase digital devices and services (Pratama 2020).

Digital leadership capabilities in providing and utilizing technology and data for decision-making are also influenced by the competencies of teachers and educational staff within the organization. Digital leadership acts as a sense maker and change enabler in building a culture of quality in educational organizations. This is in line with the importance of a leader's ability to respond to change through three main processes, namely: capability sensing, capability seizing, and capability reconfiguring.

Adequate infrastructure must be in line with national education standards. School principals are responsible for the implementation of education, school administration, teacher development, and the utilization and maintenance of school infrastructure (Kushendratno, 2023).

From this perspective, adequate infrastructure to support performance can facilitate principals, teachers, and educators in organizing quality learning activities (Maiya, 2023). From quality learning, a culture of quality will also be formed in all aspects of both learning and organization (Chabibi et al., 2025).

Therefore, these three main processes provide a foundation for understanding how an organization's quality culture can adapt, integrate, and utilize resources by strengthening individual competencies in technology to achieve success in a dynamic environment.

Expanding networks and collaboration

Digital leadership has played a key role in expanding networks and collaboration with external environments. This expansion of networks and collaboration is very important in harmonizing and improving the quality culture of educational institutions. As leaders, they must act as dynamic bridges between educational institutions and stakeholders. These networks and collaborations are carefully selected and tailored to the needs of each organization within the educational institution, ensuring their relevance and effectiveness (Karsadi, 2025).

The networks established by leaders must produce tangible results in the form of access to knowledge, exchange and capacity building of resources, and strengthening of quality practices in education. Structured collaboration encourages organizations to be more open to evaluation, renewal, and continuous innovation.

These findings show that collaboration between leaders and educators, work units, and partnerships with other educational institutions contributes to improving the quality culture of educational organizations. Through collaboration in the form of discussions and work programs with other educational institutions, there is a clear commitment to quality and the achievement of common goals. This collaboration also strengthens a culture of mutual learning and shared responsibility for the quality of services and the quality culture of educational organizations.

Digital leadership requires connectivity, so schools need to collaborate with parents, communities, other educational institutions, and external partners. This collaboration enables the exchange of best practices, capacity building, and the development of programs that are relevant to the needs of the times. Digital leaders act as connectors who expand schools' access to opportunities for innovation and strengthen technology-based education systems.

In the context of school organizations, principals are required to adopt a digital multiliteracy approach. This leadership encourages the formation of networks between teachers and schools to share digital practices in learning communities. This synergy creates an adaptive school organizational quality culture ecosystem, empowering teachers as agents of technological innovation (Andriani 2022). By providing regular forums and discussions on experience-based digital practices, principals strengthen a culture of learning and reflective and collaborative organizations in the educational environment.

In addition, network expansion and external collaboration can also encourage educational organizations to become more adaptive to changes and environmental demands. Access to the latest information, technology, and policies through professional networks helps organizations adjust their quality strategies more responsively. A strong network serves as a benchmarking tool, enabling leaders to compare and improve their performance and build an organizational quality culture based on the best practices of other educational institutions (Zubaidah 2022).

School principals also need to establish close collaboration with education supervisors and expert advisors. This collaboration emphasizes that the integration of community forums for supervisors and educational technology practitioners improves the systematic coordination of digital learning. This synergy enables the implementation of internal training, collective evaluation, and the formation of best practice-based policies between schools. Thus, the principal becomes a liaison and facilitator between various internal and external stakeholders in achieving the goals of a digital-based educational organization's quality culture

Based on the researcher's field study observations, there are four digital leadership strategies and organizational quality cultures in education above. The researcher grouped each of these strategies into a table based on the research results to make them easier to understand:

Leadership Strategy	Application Results
Vision and mission development	<ul style="list-style-type: none"> - The creation of a shared awareness of technology - Can determine the direction and integration of all aspects of educational organization culture
Strengthening digital literacy and human resources	<ul style="list-style-type: none"> - Training programs, workshops, and external collaborations
Strengthening individual competencies	<ul style="list-style-type: none"> - Provision of technological infrastructure - Adequate internet support
Expanding the collaboration network	<ul style="list-style-type: none"> - Cooperation with external parties - Collaboration in resource exchange

CONCLUSION

Digital leadership is a key factor in building and strengthening a culture of quality in educational organizations amid the challenges of an era of disruption marked by rapid technological developments and changes in work patterns. Educational leaders with digital leadership competencies are able to strategically integrate information technology into organizational management, decision-making, and improving the quality of services and learning. This contributes to the creation of a work culture that is adaptive, innovative, collaborative, and oriented towards continuous quality improvement.

In addition to being a driver of technological transformation, digital leadership also plays an important role in instilling values, commitment, and awareness among all members of the organization regarding the importance of quality education. Therefore, an appropriate strategy is needed to create a culture of quality in educational organizations through digital leadership. Developing a vision and mission, strengthening digital literacy and human resources, strengthening individual competencies, and expanding collaborative networks can be appropriate strategies to develop in leadership in the field of education.

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