

Managerial Role of the Principal in the Implementation of School Digitalization at SMP Negeri 1 Kajen

Sari Tejawati

Universitas Persatuan Guru Republik Indonesia Semarang, Indonesia
tejawatisari@gmail.com

Widya Kusumaningsih

Universitas Persatuan Guru Republik Indonesia Semarang, Indonesia
widyakusumaningsih@upgris.ac.id

Soedjono

Universitas Persatuan Guru Republik Indonesia Semarang, Indonesia
soedjono@upgris.ac.id

Abstract: Digital transformation in education demands not only technological adaptation but also strategic and visionary leadership. This study examines how the principal of SMP Negeri 1 Kajen implements key managerial functions planning, organizing, resource mobilization, and supervision in advancing school digitalization. Framed by transformational leadership theory and Kotter's change management model, the analysis highlights leadership practices across stages of change. Using a qualitative phenomenological approach, data were collected through interviews, observations, and document analysis with triangulation to ensure credibility. Digitalization, defined as the integration of *LMS*, *CBT*, and the *SIDIK* application, was aligned with institutional goals through proactive planning. Organizational adjustments included team-based coordination and task delegation, while digital tools were supported by continuous teacher training. Although monitoring relied on reflective observation, it lacked systematic data use. Despite challenges such as limited digital competence and resistance to change, the principal employed inclusive strategies mentoring, collaboration, and phased implementation to build trust and capacity. The study concludes that effective digital leadership requires adaptive, inclusive, and reflective management to sustain and scale transformation.

Keyword: Management; Educational management; School managerial.

INTRODUCTION

Digital transformation has become a central agenda in the global education sector, in line with the challenges and opportunities brought about by the Fourth Industrial Revolution and the transition toward Industry 5.0 (Bano et al., 2022; Romero-Rodríguez et al., 2023). Education is no longer limited to the transmission of knowledge but must also cultivate critical thinking, technological adaptability, and cultural literacy in accordance with students' psychological and physical development (Permendikbud, 2014). In response, educational institutions are increasingly required to integrate digital systems into both administrative and pedagogical practices to enhance efficiency, interactivity, and equitable access to quality learning (Kemendikbud, 2019; Sakinah et al., 2022).

Within this context, the role of the school principal becomes highly strategic. Principals are not only responsible for administrative duties but are also expected to serve as change agents capable of leading systemic digital transformation. As Jayanti and Wati (2019) assert, successful educational institutions are typically led by individuals who are inspirational, collaborative, and responsive to change. This is reinforced by Regulation No. 40 of 2021 (Permendikbudristek), which mandates that school principals carry out managerial functions, promote entrepreneurial values, and supervise instructional activities to achieve national education standards.

Managerial competence is thus a key prerequisite for driving institutional transformation in the digital era. Grace et al. (2022) emphasize that the quality of school management is largely determined by the leadership capacity of the principal. Similarly, Marno and Supriyatno (2013) and Yanti et al. (2024) argue that the success of school organizations relies heavily on the principal's performance as a manager with a deep understanding of the learning process. This expectation is codified in Permendiknas No. 13 of 2007, which outlines fifteen core competencies for principals, including strategic planning, organizational development, digital resource management, and performance evaluation.

In line with technological advancement, digital leadership has emerged as a growing area of scholarly attention. Fitriyah and Santosa (2020) argue that school principals must be able to motivate all stakeholders to embrace technology-driven change. Rahayuningsih and Iskandar (2022) add that being innovative and tech-literate is an essential attribute of leadership in the digital age. Other studies have found that principals' digital competence is positively correlated with teacher motivation and engagement in professional development (Nasution et al., 2022). The government has also reinforced the importance of digital transformation by promoting digital learning platforms, mobile applications, and interactive curricula (Hermawansyah, 2021; Sutarsih et al., 2024; Muttaqien et al., 2023).

However, despite the growing discourse on digital leadership and managerial competence, there remains a research gap concerning how principals implement strategic managerial functions in the context of school digitalization—particularly in lower-tier secondary schools located in non-metropolitan areas. Few studies have explicitly explored the integration of transformational leadership theory and organizational change models—such as Kotter's 8-Step Change Model—into the practical management roles of school principals. Moreover, the nuanced challenges of teacher resistance, limited digital literacy, and infrastructural constraints are often underexplored in existing literature.

Implementation of digitalization is not without obstacles. Sawitri et al. (2019) identified resistance from educators, limited access to infrastructure, and inadequate digital literacy as persistent challenges. These issues underscore the importance of strategic leadership and robust planning to build a future-oriented school culture (Kemendikbud, 2020). As Kurniati (2018) suggests, the managerial role of the principal—which encompasses planning, organizing, utilizing resources, and conducting supervision—is critical to ensuring the effective realization of digital school transformation.

SMP Negeri 1 Kajen provides an exemplary case of successful digital leadership. The school has been at the forefront of digital integration, led by a principal with strong IT capabilities who initiated innovations such as Computer-Based Testing (CBT), a Learning Management System (LMS), the SIDIK application, e-Raport, and PPDB Online. These digital tools have not only streamlined operations within the school but have also been adopted by other institutions in the region, further validating the scalability of the principal's managerial practices.

Unlike prior research that often focuses on challenges and urgency, this study aims to provide a practical and in-depth analysis of how a principal enacts managerial roles in the process of digital school transformation. It applies a descriptive qualitative approach to examine how the principal at SMP Negeri 1 Kajen carries out strategic planning, organizational development, digital resource mobilization, and supervision. The school serves as a best-practice model for other institutions navigating the complexities of educational digitalization.

Accordingly, this study seeks to answer the question: *How does the principal of SMP Negeri 1 Kajen perform key managerial functions in implementing digitalization across the school's systems?* The goal is to analyze and document these practices as an empirical reference for developing effective, scalable models of digital leadership in education.

RESEARCH METHODOLOGY

This study employs a qualitative research approach with a phenomenological design to explore the strategic managerial roles of the school principal in the implementation of digitalization at SMP Negeri 1 Kajen, Pekalongan Regency. The qualitative approach is considered suitable for capturing complex social phenomena within natural settings, enabling the researcher to understand participants' lived experiences and contextual realities (Moleong, 2017; Creswell & Poth, 2018). The phenomenological method was selected to reveal the subjective meanings behind stakeholders' engagement in

school digital transformation, as suggested by Alase (2017), emphasizing the significance of direct experience in shaping leadership behavior.

The research process is systematically organized into several stages: a preliminary study and literature review (October–November 2024), proposal approval and ethical clearance (November–December 2024), data collection (January–March 2025), data analysis (March–May 2025), and final report writing (May–July 2025). The research site, SMP Negeri 1 Kajen, was chosen purposively due to its proactive digital initiatives. Participants are selected through purposive sampling and include the school principal, vice principals, IT staff, BOS treasurer, subject teachers, students, and school committee members, all of whom are directly involved in the digitalization process.

Data collection is conducted using three triangulated techniques: semi-structured interviews, participatory observations, and document analysis. The interview instrument consists of open-ended questions designed based on managerial function indicators (planning, organizing, actuating, controlling) and digital leadership theories. Observations are guided by a checklist that records classroom and administrative digital practices. Document analysis follows a review protocol and includes digital policy documents, training records, platform usage logs (e.g., LMS, CBT, SIDIK), and student assessment data. These instruments are designed and validated in the preliminary stage and refined based on expert input.

To ensure data credibility and trustworthiness, this study applies source triangulation (comparing perspectives from different stakeholders) and method triangulation (cross-verifying interviews, observations, and documents), in accordance with Lincoln and Guba's (1985) and Moleong's (2017) recommendations. Data analysis follows Miles and Huberman's interactive model, involving data condensation, data display, and conclusion drawing. Thematic analysis is applied to identify patterns related to the principal's managerial strategies in digital leadership, as recommended by Braun and Clarke (2019).

Ethical considerations are addressed through informed consent, confidentiality, and ethical approval from the institutional board. While this study is limited to a single school and a one-year time frame, its in-depth phenomenological approach is expected to provide context-rich insights into the practice of digital transformation leadership in public school management.

RESULTS AND DISCUSSION

Digital transformation in educational institutions goes beyond mere adoption of technology; it encompasses systemic changes in leadership,

organizational culture, and pedagogical practices. The school principal holds a pivotal role—not just as a policy executor, but as a strategic leader whose managerial competencies influence the depth, continuity, and inclusivity of digital innovation (Yanti et al., 2024; Marno & Supriyatno, 2013). Based on the qualitative case study at SMP Negeri 1 Kajen, four key domains of managerial practice were identified: strategic planning, organizational structuring, resource mobilization, and monitoring and evaluation. These roles were shaped within an evolving policy context, institutional realities, and technological capacity.

In the domain of strategic planning, the principal integrated digital priorities into formal school documents such as the RKAS, aligning with the educational profile report and national mandates. However, while teachers were involved in goal-setting and platform selection, the engagement of students and the school committee remained minimal, particularly during the needs-assessment stage. This limited involvement may hinder the authenticity and responsiveness of planning outcomes. Although technically structured, the process remained predominantly top-down. This contrasts with participatory planning models advocated by Wulandari et al. (2022) and Riyanto (2020), who emphasize the importance of inclusive collaboration for relevance and innovation. Without genuine contributions from broader stakeholders, particularly students—the primary beneficiaries—there is a risk of shallow or misaligned implementation.

In terms of organizational development, the principal formed a digital task force with clear divisions of labor for LMS, CBT, and SIDIK platforms, supported by regular coordination. This reflects a shift toward distributed leadership and agile team-based management (Wicaksono et al., 2023). However, the organizational dimension was still largely limited to logistical support. The study offers limited insight into how pedagogical transformation is being realized, especially in terms of instructional design, digital literacy integration, or student-centered learning models. Future planning should incorporate joint curriculum development, inclusive training modules, and co-designed learning environments that bridge managerial, technological, and instructional domains.

Finally, in resource utilization, the school balanced technological investment with human capacity building. Teachers received ongoing support from IT staff, reinforcing the idea that digital infrastructure must be accompanied by hands-on facilitation and peer mentoring. This practical integration of tools—such as LMS, CBT, and SIDIK—reflects an understanding that sustainable digitalization depends not only on access but also on usability, adaptability, and teacher ownership (Widodo, 2020).

In sum, while the principal demonstrated initiative in mobilizing planning and structural functions, future efforts must embed more authentic stakeholder participation, particularly from students and school committees, to enhance equity, responsiveness, and pedagogical depth in school digital transformation.

The principal noted, “Our IT team assists teachers even during breaks so that they feel supported and not overwhelmed.” This proactive support illustrates a strong commitment to reducing teacher anxiety in adopting new technologies. However, the study also identified disparities in digital competence among teaching staff, with some relying solely on basic tools such as slide presentations. These challenges affirm Nasution’s (2019) assertion that continuous professional development is essential to help educators adapt to evolving technological demands. In this regard, resource mobilization should not be understood merely as access provision, but as a sustained investment in capacity building—emphasizing training, mentoring, and peer support to foster consistent digital integration.

Nevertheless, the success of digital transformation does not rest solely on teacher readiness. The study revealed that students and school committees were minimally involved in the early planning and needs-assessment stages, despite being key stakeholders. This exclusion risks limiting the relevance and sustainability of implemented changes. Moving forward, the principal must embrace a more participatory framework that empowers students and committee members to co-identify digital needs, co-design solutions, and participate in evaluation processes. Such inclusive engagement not only reinforces shared ownership, but also helps build a resilient and collaborative school-wide digital culture.

Monitoring and Evaluation: Toward Participatory and Reflective Governance

Monitoring and evaluation activities at SMP Negeri 1 Kajen were primarily conducted through classroom observations, informal feedback, and post-instruction discussions. As one teacher noted, “Our principal frequently joins digital classes and follows up with reflection discussions afterward.” While this indicates the principal’s active involvement, the study found that these efforts were not supported by systematic documentation, standardized evaluation instruments, or structured follow-up procedures. Fitriani (2024) argues that supervision in digital learning contexts should not only focus on presence but also incorporate clear quality control frameworks and feedback loops. Similarly, Prasetyo (2020) highlights that consistent and structured

supervision enables school leaders to detect implementation gaps and respond proactively.

However, to ensure long-term improvement and ownership, monitoring and evaluation must evolve from a hierarchical approach to a co-constructive, school-wide reflective practice. This includes establishing inclusive forums—such as digital planning forums, participatory design workshops, or stakeholder reflection circles—where teachers, students, and school committees can jointly review progress, share challenges, and co-develop solutions. The lack of comprehensive data aggregation and stakeholder involvement in evaluation processes signals a missed opportunity to harness collective insight. Anggraeni (2019) underscores the value of continuous, dialogic evaluation in enhancing teachers' digital pedagogy, while Sutanto (2021) advocates for integrated digital monitoring systems that ensure data transparency and inform decision-making. Embedding such participatory mechanisms can strengthen not only accountability but also commitment and innovation across the school community.

To move beyond supervision and toward a culture of reflective organizational learning, the principal must function not only as an administrator but as a pedagogical leader. Feedback loops should be institutionalized to allow teachers to evaluate their own practice, fostering a professional environment centered on continuous improvement.

Critical Synthesis

Principal at SMP Negeri 1 Kajen demonstrated essential managerial competencies in driving digital transformation. These competencies were not merely administrative but transformative, enabling systemic innovation that bridged leadership, infrastructure, and digital practices. Yet, the long-term sustainability of such initiatives requires more than structural management—it demands the cultivation of inclusive governance, equitable digital literacy, and a culture of continuous learning across the school ecosystem.

Consistent with the arguments of Chastanti (2024) and Grace et al. (2022), digitalization must be understood as a holistic reform rather than a technological upgrade. To achieve this, digital transformation plans must explicitly embed curriculum redesign, targeted teacher training, and student-centered instructional methodologies. Collaboration with pedagogical experts is also vital to ensure that technological integration enhances rather than replaces sound educational practices. Moreover, the school should establish formative evaluation tools—such as feedback surveys, reflective learning journals, or digital program review forums—where students, teachers, and parents can continuously assess the relevance and effectiveness of digital initiatives. By

aligning vision, pedagogy, and participation, school leaders can orchestrate digital transformation that is not only innovative but also inclusive, responsive, and pedagogically grounded.

The findings of this study indicate that the success of the principal in implementing digitalization at SMP Negeri 1 Kajen is closely linked to adaptive and participatory managerial capabilities. These findings are confirmed and reinforced by various prior studies.

First, the principal's planning strategies—which include the integration of digital initiatives into the School Activity and Budget Plan (*Rencana Kegiatan dan Anggaran Sekolah*, RKAS) and the use of platforms such as the Learning Management System (LMS), Computer-Based Test (CBT), and *Sistem Informasi Digital Kajen* (SIDIK)—are consistent with the findings of Wulandari et al. (2022) and Riyanto (2020), who emphasize the importance of collaboration in digital education planning. However, this study highlights the limited participation of students and school committees in the early stages of planning, indicating the need for a more inclusive approach as suggested by Jayanti and Wati (2019).

Second, in terms of organization, the formation of a digital task force reflects a distributed leadership style, as described by Wicaksono et al. (2023) and Thannimalai & Raman (2019). Nevertheless, as critiqued by Romero-Rodríguez et al. (2023), sustainable digital transformation requires cross-sectoral integration, including curriculum innovation and pedagogical leadership—areas that have not been fully developed in this case.

Third, the resource utilization strategy—through teacher training and IT team mentoring—reinforces Nasution's (2019) view that improving teacher competence is essential for successful digital transformation. This commitment aligns with Widodo's (2020) argument that digital infrastructure must be accompanied by adequate human resource readiness.

Fourth, in terms of supervision, the principal's reflective monitoring practices are in line with the recommendations of Fitriani (2024) and Prasetyo (2020), but these efforts are not yet supported by a structured, data-driven evaluation system. This indicates that current supervision practices remain informal and lack the depth of assessment promoted by participatory evaluation approaches, as advocated by Anggraeni (2019) and Sutanto (2021).

Thus, the findings of this study not only reinforce the existing literature on the principal's role in digital education management but also offer contextual contributions to the development of collaborative transformational leadership models. These findings suggest the need to reorient digital school governance

from a structural approach toward a comprehensive, reflective-participatory framework.

CONCLUSION

This study revealed that the principal's managerial role in driving digitalization at SMP Negeri 1 Kajen extended beyond routine administration, embodying strategic adaptability in planning, organizing, resource mobilization, and supervision. The novelty of this research lies in uncovering how these managerial functions, when grounded in transformational leadership and participatory governance, can catalyze digital change that is culturally embedded and instructionally meaningful—despite the typical resource and engagement constraints in non-metropolitan school contexts. Unlike previous studies that treat digital leadership as a technical function, this research provides a deeper conceptual lens by integrating leadership theories with practical school governance dynamics. The author argues that effective digital leadership must evolve into a reflexive and co-constructive process, where principals act not only as implementers of policy but as institutional architects who facilitate stakeholder collaboration, promote pedagogical coherence, and drive data-informed innovation. Future research should adopt multi-site and longitudinal designs to assess how such leadership models adapt across settings, while policy and training programs must shift from merely building digital skills to cultivating visionary, pedagogically grounded, and resilient leaders.

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