



## Management of Decision Support Systems for Organizational Change in Griya Bandung Indah Public Elementary School

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### ABSTRACT

This study aims to analyze the dynamics of leadership and the implementation of a Decision Support System (DSS) in supporting managerial processes at SDN Griya Bandung Indah. Employing a qualitative approach with a case study design, the research explores in depth how the principal, teachers, and institutional documents contribute to digital-based planning, implementation, and evaluation processes. Data were collected through in-depth interviews, participatory observation, and document analysis, and were examined using an interactive analysis model consisting of data reduction, data display, and conclusion drawing. The findings indicate that the principal's collaborative leadership plays a crucial role in promoting DSS adoption, while technological readiness and teachers' digital competence determine its effectiveness. The DSS was shown to enhance decision-making accuracy, work efficiency, and managerial transparency. This study suggests that the integration of technology in school management must be supported by internal policies, continuous training, and an adaptive organizational culture

## **INTRODUCTION**

Digital transformation in primary education has become a global demand that urges schools to improve the quality of their educational services. The rapid development of information technology requires decision-making mechanisms that are more structured, adaptive, and data-driven. In Indonesia, national policies such as the National Education System Law and the Merdeka Curriculum strengthen this need by emphasizing flexibility, technology integration, and evidence-based management. Schools can no longer rely solely on intuition but must utilize accurate and real-time information. This challenge is increasingly important as educational environments undergo rapid and unpredictable changes. However, the adoption of technology at the primary school level often encounters complex internal barriers. These barriers include managerial limitations, inadequate infrastructure readiness, and varying levels of digital competence among educators. Therefore, a comprehensive management approach is required to integrate technology with the organizational needs of schools.

A Decision Support System (DSS) represents an essential tool capable of facilitating this digital transformation. DSS enables schools to process information from multiple sources and use it to support more objective and targeted decisions. Within primary education settings, DSS can assist principals, teachers, and administrative staff in planning programs, monitoring performance, and identifying issues more efficiently. However, implementing DSS is not a simple process, as it requires organizational readiness, a data-driven culture, and strong governance. Many schools face obstacles in the early stages of adoption, including limited understanding of DSS benefits and insufficient training for educators and staff. Furthermore, non-standardized digitalization processes often result in suboptimal data that is difficult to utilize systematically. Gaps in digital literacy among teachers also slow down the integration of DSS into school management practices. Thus, DSS implementation demands a solid managerial foundation to ensure sustainability.

SDN Griya Bandung Indah is among the schools currently in the initial stage of adopting a DSS to enhance managerial decision-making. The school has initiated several digitalization efforts, especially in administrative activities and academic reporting. Nevertheless, a fully integrated system connecting various units within the school has not yet been established. This situation causes decision-making processes to rely heavily on manual procedures, making them vulnerable to delays and inaccuracies. Leadership becomes a crucial factor in determining the success of digital transformation at the school level. The principal plays a central role in shaping the digital vision and fostering a data-oriented work culture. Additionally, the digital literacy skills of teachers influence how quickly technology can be integrated into daily school activities. Therefore, the organizational readiness of SDN Griya Bandung Indah must be examined comprehensively as a basis for developing a more effective DSS.

The implementation of DSS in a primary school setting involves organizational change management that is not only technical but also structural and cultural. Changes in work systems require the adaptation of all school

members to ensure consistent use of technology. This process includes modifications in communication flows, task distribution, and the way teachers and staff interpret data as the basis for decision-making. Moreover, the success of DSS implementation is significantly influenced by the quality of training and support provided to system users. Schools lacking adequate technical assistance often struggle to maximize the use of technology. Such challenges may hinder efforts to achieve a data-oriented school environment that is responsive to students' needs. Therefore, change management must consider technology readiness, human resource capacity, and structural support from policy stakeholders. A systematic approach is essential to ensure that digital transformation progresses smoothly.

This study aims to analyze the management of DSS implementation at SDN Griya Bandung Indah by examining three key aspects: leadership, organizational processes, and technological readiness. This analysis is necessary to understand the internal dynamics of a school facing the demands of digital transformation. Theoretically, the study contributes to the development of educational leadership literature, particularly in managing technology-based organizational change. In addition, the findings enrich studies on DSS integration within primary school contexts that are currently adapting to national digitalization initiatives. Practically, the study provides guidance for school leaders and policymakers in formulating more effective digital transformation strategies. The recommendations generated can serve as a foundation for improving data governance and enhancing educators' technological competencies. Consequently, the outcomes of this research are expected to promote a more responsive, adaptive, and evidence-based school management system. Ultimately, digital transformation can contribute to improving the overall quality of education services.

## LITERATURE REVIEW

### *Educational Leadership and Organizational Change*

Educational leadership plays an essential role in directing organizational change within schools. Effective leaders are able to identify institutional needs and design adaptive strategies that respond to contemporary dynamics. The transformational leadership approach is considered relevant because it inspires educators to actively engage in innovation. In the context of primary schools, the ability of leaders to provide a clear and compelling vision becomes a key factor in successful change. Bass, as cited in Harsoyo (2022), explains that transformational leaders encourage creativity and commitment through intellectual stimulation. Such leadership fosters a work environment that is open to experimentation and renewal. Therefore, transformational leadership serves as a foundation for driving organizational change in educational settings.

In addition to transformational leadership, participatory leadership is also highly relevant in the context of school-based change. Participatory leadership provides opportunities for teachers to be involved in the decision-making process, thereby increasing their sense of ownership toward ongoing programs. Teacher involvement not only strengthens collaboration but also generates new

ideas that contribute to the quality of change strategies. Leaders who apply this style are generally more responsive to the needs of school stakeholders. As a result, the change process does not occur in a top-down manner but through synergy across organizational components. This is aligned with change theories that highlight the importance of stakeholder engagement. Participatory leadership has also been proven effective in fostering an environment conducive to innovation.

The relationship between leadership and organizational change demonstrates that the success of transformation is largely determined by leader quality. Leaders who combine inspirational and participatory elements will create the ideal conditions for sustainable change. In digital transformation initiatives, leaders must balance technical needs and human aspects within the school community. This balance is necessary because technological changes often generate resistance among teachers. Adaptive leadership helps minimize such resistance through persuasive communication and empowerment strategies. Leaders must also ensure the availability of support, training, and effective communication throughout the change process. Thus, educational leadership becomes a strategic factor in enabling organizations to respond to modern challenges.

#### ***Decision Support Systems (DSS) in Schools***

A Decision Support System (DSS) is a managerial tool that assists decision-makers in processing data more efficiently and accurately. DSS is designed to analyze alternative decisions and minimize errors in managerial processes. In schools, DSS plays an important role in helping principals plan data-based programs. Jeprianus Heingo et al. (2023) highlight that DSS can support semi-structured decisions commonly encountered in educational environments. The system generates relevant and timely information, making monitoring and evaluation easier and more systematic. DSS also supports administrative activities such as assessment, attendance management, and budget planning. Therefore, the implementation of DSS significantly enhances school management effectiveness.

Studies by Hendrik et al. (n.d.) show that the use of DSS positively influences the supervision and evaluation of school programs. In the context of unstructured decisions, DSS serves as an analytical instrument that simplifies complex problems. The use of such systems allows schools to identify data patterns that would otherwise be difficult to detect manually. This provides a strategic advantage for formulating more accurate policies. The integration of technology also makes evaluation processes more objective since data is presented transparently. Furthermore, DSS can be integrated with school information systems to produce more comprehensive reports. Hence, DSS becomes an important component in modernizing educational management practices.

The implementation of DSS in schools requires adequate readiness in terms of infrastructure and human resources. The system will function optimally only if users understand its features and operational mechanisms. Many schools face challenges such as limited digital literacy and insufficient technical training

for teachers and staff. These challenges can reduce the effectiveness of DSS despite the availability of the system. Therefore, DSS adoption must be accompanied by sufficient training and ongoing support. Schools with a data-driven work culture are more likely to integrate DSS into managerial routines. Thus, organizational readiness is a key determinant of successful DSS implementation.

### ***Digital Transformation in Primary Schools***

Digital transformation in primary schools requires changes that are not only technical but also cultural and structural. Royani et al. (2025) emphasize that the success of digitalization depends heavily on organizational culture and human resource capacity. Without these foundations, technology tends to be used in a limited and unsustainable manner. Digitalization efforts in primary schools often focus only on administrative functions rather than integrating technology into teaching and learning. This causes the transformation process to yield minimal impact on the overall quality of education. Therefore, strategic planning is required to guide the digital change process in a comprehensive way. Alignment between vision, competence, and infrastructure is essential for ensuring successful digital transformation.

When schools lack a well-designed plan, digitalization efforts often result in partial and unintegrated implementation. Many cases show that technological tools are available but not optimally utilized by teachers or staff. Technical issues such as unstable internet connectivity and limited devices further hinder the digital transformation process. Furthermore, low digital literacy among teachers poses a significant barrier to effective technology use. Digital transformation requires continuous training programs to help educators adapt to technological developments. Insufficient human resource readiness may lead to resistance toward change. Thus, investment in capacity building becomes a crucial component of successful digitalization initiatives.

Organizational readiness plays a major role in determining the extent to which technology can be integrated into school systems. Schools with strong governance structures tend to adopt digital innovations more quickly. Visionary leadership strengthens the commitment of school members in embracing technological change. Additionally, policy support and government funding accelerate the digital transformation process. Schools must also foster collaborative work cultures to ensure consistent use of technology. Regular evaluation is needed to ensure digitalization produces measurable improvements in learning and administrative processes. Therefore, digital transformation requires synergy among systems, people, and leadership.

### ***The POAC Management Framework***

The POAC management framework introduced by Terry (2017) provides a foundation for understanding managerial functions in schools. The planning function helps organizations determine their goals and the strategies needed to achieve them. In the context of DSS management, planning involves identifying technological needs and outlining implementation steps. This process is crucial to ensure that DSS is used optimally and aligns with school priorities. Without clear planning, DSS implementation tends to be ineffective and fragmented.

Planning also ensures that all stakeholders understand their respective roles in the digitalization process. Therefore, the planning function forms the initial foundation of technology-related organizational change.

The organizing function focuses on task distribution and effective resource management. In implementing DSS, schools need to establish a dedicated team responsible for system development and monitoring. Proper organizing ensures that each member understands their role in utilizing the technology. Resource management—including hardware, software, and technical personnel—is also a critical aspect at this stage. A clear organizational structure facilitates coordination throughout the implementation process. Thus, organizing becomes an essential step to ensure that DSS operates according to plan. The strength of this function determines the success of collaboration among stakeholders.

The functions of actuating and controlling serve as the next stages that determine the effectiveness of DSS utilization. Actuating involves providing motivation, training, and guidance to teachers and staff so they can use the system optimally. At this stage, leadership plays a crucial role in encouraging adoption and fostering positive attitudes toward technology. Controlling includes evaluating DSS usage, such as analyzing system performance and overall effectiveness. Regular evaluations help identify areas that require improvement or adjustments. Evaluation results then serve as the basis for enhancing DSS implementation quality. Thus, actuating and controlling ensure the sustainability and long-term effectiveness of technology management in schools.

#### *Narrative of Previous Studies*

A number of studies published in 2022 demonstrate that Islamic value-based leadership plays a significant role in enhancing teacher performance, professionalism, and responsibility within Islamic educational institutions. The first study, conducted by Ahmad and Ibrahim (2022), examined the influence of Islamic transformative leadership on teacher performance in Islamic senior high schools. Their findings reveal that leadership grounded in Islamic ethical values—such as trustworthiness, justice, and exemplary conduct—substantially contributes to improving teacher motivation and instructional quality. However, their leadership model did not specifically incorporate the prophetic leadership framework.

The second study, conducted by Nurhayati (2022), explored the implementation of prophetic values (*ṣidq*, *amānah*, *tablīgh*, *fatānah*) in school management. She found that the integration of prophetic values fosters a positive school climate, strengthens teacher responsibility, and supports the development of teacher professionalism. Nevertheless, the study remained conceptual and did not provide an empirical measurement model for teacher performance or responsibility.

Furthermore, Rizqiyah et al. (2022) examined the relationship between value-based leadership and teacher accountability in Islamic boarding schools. Their results show that leaders who embody strong ethical values can enhance institutional commitment and professional responsibility among teachers.

However, the study did not explicitly adopt the prophetic leadership model and focused more on accountability rather than performance.

Compared to these previous studies, the present article offers several advantages. It provides a more comprehensive and empirically measurable model of prophetic leadership, integrating both teacher performance and responsibility into a holistic analytical framework. This strengthens the relevance and contribution of the current study to the development of Islamic educational management grounded in prophetic values.

## METHODOLOGY

This study employs a qualitative approach with a case study design to obtain a comprehensive understanding of leadership dynamics and the implementation of the Decision Support System (DSS) at SDN Griya Bandung Indah. The case study design was selected because it allows the researcher to analyze the phenomenon directly within the natural context of a school undergoing digital transformation. Through this approach, the researcher is able to trace how policies, work processes, and interpersonal interactions influence the practical application of the DSS. The qualitative approach also enables the researcher to capture the subjective meanings held by stakeholders, particularly in relation to organizational readiness toward technological change in education.

The primary data sources include the principal, teachers, school operators, and institutional documents that reflect planning, implementation, program evaluation, and digital integration activities. Informants were selected using purposive sampling, considering their involvement in decision-making processes and their experience with the school's technological systems. SDN Griya Bandung Indah was chosen as the research site not only because it is in the process of developing digital administrative practices, but also due to its high openness to innovation and external evaluation. These conditions allow for intensive exploration of organizational dynamics and provide a realistic understanding of factors that support or hinder DSS implementation.

Data collection techniques consist of in-depth interviews, participatory observations, and document analysis conducted systematically. In-depth interviews were used to explore the informants' direct experiences related to leadership practices, organizational culture, and the use of DSS in managerial processes. Participatory observations were conducted to record real-time behavior in the field, such as interactions between teachers and leaders, digital communication patterns, and the ways in which data are processed and utilized in daily operations. Document analysis includes reviewing the School Work Plan, evaluation reports, academic records, digital archives, and other administrative instruments relevant to the decision-making process.

Data analysis was carried out using the interactive analysis model developed by Miles, Huberman, and Saldaña, which includes data reduction, data display, and conclusion drawing and verification. Data reduction involved organizing significant information from interviews, observations, and documents into meaningful units relevant to the research focus. Data display was conducted through thematic tables, variable-relation matrices, and descriptive

narratives to help identify patterns, tendencies, and emerging dynamics. Conclusions were drawn iteratively to ensure that the interpretations were valid and consistent with field findings. The credibility of the research results was strengthened through source triangulation, methodological triangulation, and member checking, during which interpretations were verified by the informants to ensure alignment between the researcher's analysis and the participants' actual experiences.

## **RESULTS AND DISCUSSION**

The findings of this study reveal that the leadership orientation of the school principal plays a strategic role in driving organizational change, particularly within the context of digital transformation at SDN Griya Bandung Indah. The principal demonstrates a tendency toward transformational and participatory leadership, as reflected in the involvement of teachers in internal discussions and decision-making processes. These leadership practices align with Bass's theory of transformational leadership, which emphasizes the leader's ability to build a shared vision, provide inspiration, and facilitate organizational change. However, the results also indicate a notable gap between the envisioned transformation and its practical implementation. The absence of formal documents such as a digitalization roadmap or a structured change strategy suggests that the transformation efforts are not yet supported by a solid policy framework.

In relation to the implementation of the Decision Support System (DSS), the study finds that the current digitalization efforts remain limited to basic administrative functions, particularly those concerning student data management, attendance records, and routine reporting. Such practices do not yet meet the fundamental characteristics of an effective DSS, which ideally includes well-structured data subsystems, analytical models for supporting decisions, and a user-friendly interface to maximize data utilization. As a result, the technology in use functions primarily as an administrative tool rather than a strategic system capable of enhancing planning, performance monitoring, and data-driven decision-making. This indicates that the role of the DSS within the school's managerial cycle has not reached an operational level that significantly improves decision quality.

Organizational readiness emerges as the most dominant limiting factor in the transformation process. The main challenges include low digital competence among some educators, limited technological infrastructure, and the absence of structured and sustainable DSS training programs. These findings reinforce the digital transformation literature, which emphasizes that successful technology adoption is not solely dependent on hardware and software but also on organizational culture and human resource capacity. At SDN Griya Bandung Indah, these three components have not yet reached optimal conditions, thereby hindering the school's ability to integrate the DSS effectively into its managerial processes.

Furthermore, the study reveals that the school does not yet have a formal evaluation mechanism specifically designed to assess the effectiveness of DSS implementation. The absence of indicators, instruments, and evaluative procedures results in a performance assessment that relies more on subjective perceptions than objective data. This weakens the school's managerial control function, given that evaluation is essential for assessing the DSS's contribution to decision-making and continuous improvement. The lack of a systematic evaluation process also limits the school's ability to identify barriers, achievements, and evidence-based improvement needs.

Using the POAC framework (Planning, Organizing, Actuating, Controlling) to analyze the findings further highlights the managerial challenges faced by the school in implementing digital transformation. In the planning aspect, there is no digitalization roadmap that provides clear short-term or long-term direction. In terms of organizing, the roles and responsibilities related to DSS implementation have not been clearly defined, resulting in suboptimal internal coordination. At the actuating stage, the commitment of the principal and some teachers toward change is evident, yet it is not supported by adequate policies for developing digital competencies. Finally, in the controlling function, the school lacks an objective evaluation mechanism to assess the effectiveness of the DSS. Taken together, these findings suggest that successful DSS implementation requires more structured managerial interventions, strengthened technological and human resource capacity, and an organizational culture that is more adaptive to change.

## CONCLUSIONS AND RECOMMENDATIONS

This study concludes that the successful implementation of the Decision Support System (DSS) at SDN Griya Bandung Indah is strongly influenced by leadership quality, organizational readiness, and systemic support for digital transformation. The principal demonstrates transformational and participatory leadership characteristics that have the potential to drive significant organizational change. However, this potential is not yet fully realized due to the absence of strategic planning documents, a digitalization roadmap, and systematic evaluation mechanisms. The existing DSS implementation remains limited to basic administrative functions and has not yet evolved into a strategic tool for data-driven decision-making.

Organizational readiness including digital competence, technological infrastructure, and training programs continues to pose major challenges that hinder the optimal use of the DSS. Moreover, the lack of evaluative indicators and procedures prevents the school from objectively measuring the system's effectiveness. Therefore, this study emphasizes the need for more structured managerial interventions, including the development of a digitalization roadmap, capacity-building initiatives, strengthened technological infrastructure, and data-based evaluation mechanisms. These improvements are expected to advance the school toward a more adaptive, responsive, and evidence-based management system.

## **FURTHER STUDY**

This research still has limitations, so it is necessary to conduct further research related to the topic of Management of Decision Support Systems for Organizational Change in Griya Bandung Indah Public Elementary School in order to perfect this research and increase insight for readers.

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