

The Role of SIKUAD Management in Improving School Performance at Public Vocational High Schools

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ARTICLE INFO

Keywords:

Sikuad; Academic Information System; Management Functions; School Performance

Article history:

Received 2019-12-19

Revised 2026-03-30

Accepted 2026-04-07

Publisher's Note

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ABSTRACT

This study examines the management of SIKUAD (Academic Information System) in improving school performance at SMK Negeri 2 Purwodadi. The study is grounded in the premise that the effectiveness of an academic information system depends not only on technological features but also on the quality of managerial processes supporting its implementation. This research aims to analyze the management of SIKUAD based on four management functions, planning, organizing, actuating, and controlling, and to identify its direct implications for school performance improvement. A qualitative case study design was employed. The research was conducted from December to February and involved one principal, one vice principal for curriculum, two system operators, five teachers, and three students selected purposively. Data were collected through in-depth interviews, participatory observation, and documentation, and analyzed using interactive data analysis supported by triangulation and member checking. The findings indicate that systematic planning through needs analysis and policy formulation ensured initial readiness and minimized administrative errors. Clear organizational structuring facilitated coordination between management, operators, and teachers. The consistent implementation of the system significantly accelerated grade processing, reduced reporting delays, improved real-time monitoring of learning activities, and decreased administrative complaints. Continuous monitoring and evaluation strengthened teacher discipline, data accuracy, and institutional accountability. The study concludes that well-managed SIKUAD contributes directly to administrative efficiency, transparency, and overall school performance improvement.

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INTRODUCTION

Digital transformation in education has increasingly positioned academic information systems as strategic instruments in school governance. The implementation of school information systems is no longer limited to data storage but extends to supporting decision-making, administrative efficiency, and service quality improvement. (B. Wijaya et al., 2025) explain that integrated school information systems can streamline administrative workflows and reduce

redundancy in data processing. This finding indicates that digital systems, when systematically developed, have structural implications for organizational effectiveness.

In the context of vocational secondary education, (Rahman, 2019) found that strengthening academic management contributes significantly to improving institutional performance. However, his study emphasizes managerial strengthening without deeply examining the role of digital systems in supporting such management. Similarly, (Opan et al., 2021) show that implementing academic management information systems enhances service quality in vocational schools, particularly in grade processing and documentation efficiency. Their study highlights service improvement but does not comprehensively analyze managerial functions behind system sustainability.

(W. M. Wijaya & Risdiansyah, 2020) further reveal that the use of educational management information systems positively affects academic activities and reporting accuracy. (Turnudin et al., 2023) argue that learning management information systems contribute to better coordination between teachers and school management. (Imran et al., 2022) emphasize that academic information systems strengthen accountability in school governance, while (Rahmadi et al., 2021) underline the importance of human resource readiness in ensuring successful implementation. (Jumriani, 2023) also highlight the necessity of continuous evaluation to maintain system effectiveness. Meanwhile, (Oktora & Sa'ud, 2019) demonstrate that academic information systems influence teacher satisfaction, and (Permanasari et al., 2025) as well as (Assiva et al., 2024) indicate that system utilization supports improvements in academic performance and service effectiveness. (Lisnanto et al., 2025) note that variations in system management practices produce different performance outcomes across schools.

Although these studies confirm the importance of academic information systems in improving service quality, accountability, and performance, most of them primarily focus on technical implementation, user satisfaction, or system effectiveness outcomes. Limited research explicitly examines how managerial functions, planning, organizing, actuating, and controlling structure, sustain, and optimize academic information systems as strategic governance instruments in vocational secondary schools. This study offers novelty by positioning SIKUAD not merely as a technological platform, but as a managed organizational system whose effectiveness depends on structured managerial processes. By analyzing SIKUAD through the framework of classical management functions and linking it directly to school performance improvement, this research provides a more integrative perspective that bridges educational management theory and digital system implementation in vocational school contexts.

METHODS

This study employed a qualitative approach with a case study design to obtain an in-depth understanding of SIKUAD management within the real context of school administration. This approach was chosen because it allows comprehensive exploration of the processes of planning, organizing, actuating, and controlling academic information systems within an educational institution. The research was conducted at SMK Negeri 2 Purwodadi for three months, from December to February. The research subjects were determined purposively based on their direct involvement in managing and using SIKUAD. The informants consisted of one principal, one vice principal for curriculum, two system operators, five teachers, and three students as end users of the system. The selection of these informants aimed to obtain managerial perspectives as well as direct user experiences.

Data collection techniques included in-depth interviews, participatory observation, and documentation study. Interviews were conducted to explore information related to the management process of SIKUAD based on the four management functions (planning, organizing, actuating, controlling). Observations were carried out to examine the practical use of the system in grade processing, attendance monitoring, and academic reporting. The documentation analyzed included system usage reports, grade recapitulation records, attendance data, and school policies related to SIKUAD implementation. Data analysis was conducted interactively through the stages of data reduction, data display, and conclusion drawing. The analysis process occurred simultaneously from

the data collection stage to the final interpretation stage. To ensure data validity, this study employed source triangulation and method triangulation. In addition, member checking was conducted with informants to ensure the consistency of interpretations with empirical conditions in the field. An audit trail was also implemented by systematically documenting the data collection and analysis processes.

The focus of analysis was directed toward the management of SIKUAD based on management functions and its implications for improving school performance, including administrative efficiency, effectiveness of learning monitoring, transparency of academic information, and service convenience for stakeholders.

RESULTS AND DISCUSSION

1. *Planning of SIKUAD in Improving School Performance*

The findings indicate that the planning of SIKUAD at SMK Negeri 2 Purwodadi was conducted systematically through the identification of academic administrative needs and evaluation of the previously used manual system. The principal, together with the vice principal for curriculum and the operator team, analyzed issues related to grade processing, reporting delays, and the high potential for data input errors. The results of this analysis became the basis for strengthening the use of SIKUAD as an integrated system.

Planning also included determining implementation objectives, namely improving grade processing efficiency, accelerating access to academic information, and facilitating learning monitoring. Furthermore, the school established clear role distribution among operators, teachers, and management in operating the system. Planning was carried out through internal coordination meetings and the preparation of system usage guidelines for teachers and educational staff. From a management perspective, this stage demonstrates that SIKUAD was not implemented spontaneously, but through a structured planning process. Careful planning enables the system to operate according to organizational needs and minimizes user resistance. This is aligned with the concept of planning in management functions, which emphasizes goal setting, strategy formulation, and operational procedures prior to program implementation.

The implications of systematic planning are reflected in increased teacher readiness to use the system and reduced administrative errors from the early stages of implementation. Teachers reported that the availability of guidelines and initial socialization helped them understand the procedures for inputting grades and attendance. Thus, the planning stage directly contributed to administrative efficiency and became the foundational basis for improving school performance. Conceptually, these findings indicate that the success of an academic information system depends not only on the technology used but also on the preceding managerial process. Clear planning creates direction, coordination, and shared commitment, enabling SIKUAD to function as a strategic instrument in supporting school organizational performance

2. *Organizing of SIKUAD in Improving School Performance*

The findings show that the organizing of SIKUAD at SMK Negeri 2 Purwodadi was carried out through clear distribution of duties and responsibilities among school management, system operators, and teachers as primary users. The principal acts as the policymaker and overall supervisor of the system, while the vice principal for curriculum is responsible for controlling academic data. The two system operators manage initial data input, system maintenance, and provide assistance to teachers when technical issues arise. Teachers have the main role in inputting grades, attendance, and updating learning data. Meanwhile, students as end users have direct access to information regarding grades and attendance through the system. This structure of task distribution demonstrates systematic and integrated coordination in managing SIKUAD.

From a managerial perspective, the organizing function is evident in the establishment of a work structure, clarity of authority, and communication flow between operators and teachers. Clear role distribution minimizes task overlap and accelerates the resolution of technical issues. When problems occur in data input or system access, teachers can directly coordinate with operators

without lengthy bureaucratic procedures. This accelerates problem response and maintains the continuity of academic services.

The impact of effective organizing is reflected in the smoother process of academic administration. Grade processing is no longer centralized in one party but conducted collectively according to respective responsibilities. In addition, good interdepartmental coordination enables more structured learning monitoring. The vice principal can monitor teachers' grade input progress, thereby minimizing reporting delays.

These findings indicate that proper organizing transforms SIKUAD from merely a technological system into an integral part of the school work structure. With a clear structure and effective coordination, the system supports improved work efficiency, data transparency, and accountability in academic management, which directly contributes to enhancing school performance.

3. Actuating of SIKUAD in Improving School Performance

The findings reveal that the implementation of SIKUAD at SMK Negeri 2 Purwodadi is actively carried out in daily academic activities. The system is used by teachers to input daily grades, assignment grades, examination scores, and student attendance data directly through a web-based platform. System operators ensure system stability and assist in resolving technical issues during use. The implementation of SIKUAD shows significant changes compared to the previous manual system. Before the integrated system was used, grade processing was conducted conventionally and required more time because recapitulation was done gradually and separately. After the implementation of SIKUAD, grade input and recapitulation became faster due to automatic data integration within the system. Teachers can immediately view cumulative grades without recalculating manually.

In addition to time efficiency, system implementation enhances the ease of learning monitoring. The vice principal for curriculum can monitor the progress of grade input and attendance in real time. This enables faster and more responsive academic supervision. When delays in grade input occur, management can promptly take follow-up actions without waiting for manual reports from teachers. From the students' perspective, access to grade and attendance information becomes more transparent. Students no longer need to wait for report card distribution to know their academic progress. This transparency increases students' awareness of their learning achievements. Furthermore, complaints related to delayed grade information decrease because data can be accessed directly through the system.

From a managerial standpoint, the actuating function is reflected in efforts to mobilize all school components to use the system consistently. The principal provides policy support and encourages teachers to maintain discipline in data input. Operators offer technical assistance to ensure users do not face significant obstacles. This process demonstrates synergy among policy makers, technical implementers, and end users in operating the system.

The implementation of SIKUAD has implications for improving school performance, particularly in increasing administrative efficiency, accelerating academic services, and facilitating teacher performance monitoring. With an actively and integratively functioning system, the school reduces administrative burdens while improving the quality of academic governance.

4. Controlling of SIKUAD in Improving School Performance

The findings indicate that controlling of SIKUAD at SMK Negeri 2 Purwodadi is conducted through periodic monitoring of system usage, evaluation of user performance, and follow-up actions on technical issues. The principal and the vice principal for curriculum regularly monitor the progress of grade input and attendance through the system dashboard. This monitoring enables management to directly assess the level of teacher compliance in using SIKUAD.

Control is not only administrative but also evaluative. When delays in grade input or data errors are identified, management immediately conducts clarification and provides corrective guidance. System operators detect technical disruptions and perform system maintenance to ensure

optimal operation. This demonstrates a sustainable control mechanism. In addition to internal monitoring, control is carried out through regular evaluation forums discussing the effectiveness of system usage. In these forums, teachers and operators can convey constraints and propose feature improvements. This mechanism creates a feedback loop that supports continuous system refinement.

From a management perspective, the controlling function is evident in performance measurement, comparison between targets and realization, and corrective actions when deviations occur. With real-time monitoring capabilities, supervision becomes more objective because it is data-based rather than relying solely on verbal reports. This strengthens accountability in academic management.

The impact of consistent controlling is reflected in increased teacher discipline in data input, reduced administrative errors, and enhanced stakeholder trust in the transparency of academic information. Effective control ensures that SIKUAD operates sustainably and continues contributing to improved school performance. Overall, the findings indicate that the management of SIKUAD—encompassing planning, organizing, actuating, and controlling—has direct implications for improving school performance. The system functions not merely as a technological tool but as a strategic instrument in strengthening administrative efficiency, monitoring effectiveness, and transparency in academic governance.

CONCLUSION

This study concludes that the management of SIKUAD at SMK Negeri 2 Purwodadi, implemented through systematic planning, organizing, actuating, and controlling functions, significantly contributes to improving school performance. Planning based on needs analysis enables the system to be implemented in a directed manner aligned with academic requirements. Clear organizing creates effective coordination among the principal, vice principal, operators, and teachers as primary users of the system. The implementation of SIKUAD has a tangible impact on administrative efficiency, acceleration of grade processing, ease of learning monitoring, and increased transparency of academic information for students. Meanwhile, periodic controlling through system-based monitoring strengthens accountability and discipline in academic data management. The integration of these four management functions positions SIKUAD not merely as a technological device but as a strategic instrument in school governance. Conceptually, this study emphasizes that the success of an academic information system is highly determined by the quality of its management. A system that is managed in a structured and sustainable manner is capable of improving work effectiveness, strengthening transparency, and supporting overall school organizational performance enhancement.

LIMITATIONS

This study has several limitations. First, the research was conducted only in one vocational school, SMK Negeri 2 Purwodadi, using a qualitative case study design, which limits the generalizability of the findings to other educational contexts. Second, the number of informants was relatively small and selected purposively, consisting of school management, operators, teachers, and students directly involved in the use of SIKUAD, which may not fully represent broader stakeholder perspectives. Third, the study focused primarily on the managerial functions of planning, organizing, actuating, and controlling in managing the academic information system, without deeply examining technical system development aspects or quantitative measurements of performance improvement. Therefore, future research is recommended to involve multiple schools, apply mixed-method approaches, and analyze the long-term impact of academic information systems on institutional performance.

AUTHOR CONTRIBUTION

EW, conceptualized the research, conducted data collection through observations, interviews, and documentation, performed data analysis, and prepared the original manuscript draft. N,

supervised the research process, contributed to the research design and methodology, reviewed and edited the manuscript, and provided academic guidance throughout the study. RBG, contributed to data interpretation, supported the validation process through triangulation and member checking, assisted in revising the manuscript, and contributed to the final approval of the article.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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