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Development of a Financial Management Information System to Improve Transparency in School Fund Management

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ABSTRACT

This study examines the development of a School Financial Management Information System (SIM Keuangan Sekolah) to enhance the transparency of school fund management. Using a qualitative library research approach, the study analyzes recent accredited journal articles and reference books through the systems development framework of Laudon and Laudon. The findings show that systematic development—covering needs analysis, system design, implementation, and evaluation—improves financial transparency by generating standardized reports, real-time information, and traceable electronic audit trails. The effectiveness of the system depends on principal leadership, the digital competence of financial staff, and adequate network infrastructure. The study's novelty lies in emphasizing the information system development process, rather than mere system adoption, as the key factor in achieving transparent school financial governance.

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1. INTRODUCTION

School fund management is one of the most strategic managerial functions in running education in Indonesia, considering that every school handles a significant amount of public funds, especially those coming from the School Operational Assistance (BOS) and committee donations. Transparency is a key principle that must be met to ensure the funds are used effectively, efficiently, and for their intended purposes (Mardiasmo, 2018). The rules regarding the planning, procurement, and reporting of BOS fund usage have been regulated by the government through the Ministry of Education and Culture Regulation Number 3 of 2019, one of whose goals is to encourage information openness and reduce the potential for abuse of authority (Ministry of Education and Culture, 2019).

On the other hand, achieving transparency in school fund management cannot be separated from how the financial Management Information System (MIS) is developed, not just used. MIS is defined as a set of components that interact to collect, process, store, and distribute information to support decision-making and control in an organization, and its development usually goes through stages of needs analysis, design, implementation, and evaluation (Laudon & Laudon, 2015). In the context of education, Rusdiana (2019) emphasizes that educational MIS plays a role in providing relevant data and information for all levels of school management. A study by Damri, Prasetyo, and Fazis (2025) at SMA Negeri 3 Padang Panjang found that principals who gradually built an MIS, by forming a finance team, preparing budgets collaboratively, and implementing applications like ARKAS and cashless transaction systems, were able to create more transparent and accountable financial management.

Even so, there are still research gaps that need to be examined further. First, most previous studies tend to discuss the use or effectiveness of management information systems (MIS) in general, without breaking down the development stages explicitly as units of analysis (Shobri, 2024). Second, the level of transparency in school fund management still varies between schools, even among schools with different accreditation statuses, as found by Habibatulloh, Widodo, and Murni (2022) in public high schools in Kaur Regency. Third, factors contributing to the success or failure of developing educational MIS in Indonesia, such as infrastructure readiness and work culture resistance, are often discussed separately from the system development stages themselves (Silvia, 2026).

Based on the explanation, this article aims to comprehensively examine how the development process of the Financial Management Information System contributes to improving the transparency of school fund management, by synthesizing the latest empirical findings into a coherent system development framework. More specifically, this study seeks to answer three main questions: how the stages of financial MIS development are carried out by schools, how each development stage contributes to the transparency of school fund management, and what factors support or hinder the success of this development.

2. METHODS

This study uses a qualitative approach with a library research design. This design was chosen because the purpose of the research is to synthesize and analyze published empirical findings on the development of school financial management information systems, rather than producing new primary data. The study population includes scientific articles and reference books discussing the development of educational management information systems, transparency in school fund management, and financial governance accountability that have been published over the past ten years (2015–2026). Data collection was done by searching the Google Scholar database, Garba Rujukan Digital (Garuda), and accredited national journal portals using the keywords 'school financial management information system development,' 'school fund management transparency,' 'SIMDIK,' and 'ARKAS.' The articles found were then selected based on theme relevance, source credibility, and publication year. A total of 20 articles and policy documents that met the criteria were used as the main material for analysis.

The research model used to analyze the stages of developing a school financial information system refers to the system development framework by Laudon and Laudon (2015), which divides the development process into four stages: needs analysis, system design, implementation and user training, and evaluation and continuous improvement. These four stages are used as a coding framework to map each stage's contribution to achieving transparency. Data analysis was done descriptively-thematically by following the stages of data reduction, data presentation, and drawing conclusions as developed by Miles and Huberman. Data reduction was carried out by grouping the article's findings into major themes, namely the stages of school financial IMS development, its contribution to transparency, and supporting and inhibiting factors in the development. Data presentation was done in the form of narratives and comparison tables, while drawing conclusions was done by linking the findings in each theme to the theoretical framework used.

3. FINDINGS AND DISCUSSION

Stages of Developing a School Financial Management Information System

The literature review shows that the development of financial information systems in schools generally goes through four interconnected stages, from identifying needs to continuously improving the system. A summary of the stages and their contribution to transparency is presented in Table 1.

Table 1: Stages of Developing a School Financial Management Information System

Development Stage	Main Activities	Contribution to Transparency
Needs analysis	Identify BOS reporting needs and committee funds together with the principal and treasurer	Aligning the system with reporting obligations so the data generated is relevant to stakeholders
System design	Determining data structures, report formats, and application modules like SIMDIK and ARKAS	Standardizing the reporting format so it's easy to compare and audit
Implementation and training	System installation, data migration, and training for the treasurer and school operators	Making sure data is recorded consistently and in real-time by competent users
Evaluation and improvement	Regular internal audits, feedback from the committee and parents, reporting feature adjustments	Creating an electronic audit trail and continuous correction mechanisms

These four stages are interdependent in a single system development cycle. The requirements analysis stage acts as the foundation that determines the relevance of all the following stages, while the design stage serves to convert reporting needs into concrete data structures and application modules (Laudon & Laudon, 2015; Santi et al., 2024). The implementation stage adds a layer of user readiness, while the evaluation stage ensures that the running system continues to stay relevant to evolving reporting needs (Damri, Prasetyo, & Fazis, 2025).

The Contribution of MIS Development to Transparency in School Fund Management

A number of empirical studies show that the quality of the SIM development process significantly contributes to achieving transparency in school fund management. Damri, Prasetyo, and Fazis (2025) found that the principal of SMA Negeri 3 Padang Panjang built the SIM gradually, starting with the formation of a finance team consisting of a payroll treasurer, BOS treasurer, and committee treasurer, followed by designing a joint reporting format, and training on applications like ARKAS and cashless transaction systems. This gradual approach shows that transparency doesn't automatically come from sophisticated technology, but from a development process that involves stakeholders from the needs analysis stage.

In line with that, Santi et al. (2024) emphasize that developing financial MIS in educational institutions needs to start with collaborative planning based on the actual needs of the institution, not just adopting uniform technology across schools. Shobri (2024) adds that an Educational Management Information System developed with stakeholders' information access needs in mind plays a significant role in facilitating more systematic and structured reporting in Islamic educational institutions. In the broader context of nonprofit organizations, Perdani, Wirawan, and Rohmah (2025) also show that developing management information systems increases financial transparency and accountability in savings and loan cooperatives, which strengthens the argument that the benefits of MIS development for transparency apply across different types of organizations as long as the development process is carried out systematically.

The Role of Leadership and Human Resources in the Success of MIS Development

The success of each stage of developing a financial information system largely depends on the leadership of the school principal and the competence of the human resources involved. Handoko and Tukiran (2022) emphasize that the role of the school or madrasah principal is crucial for the success of financial management systems, including ensuring consistent internal audits and regular treasurer training during the implementation and evaluation stages. Without the active involvement of the principal from the needs analysis stage, the system being developed risks not aligning with the school's actual reporting needs.

However, not all schools show the same level of transparency even though they have developed an Information Management System (SIM). Habibatulloh, Widodo, and Murni (2022), in their study of public high schools in Kaur Regency, found that the level of accountability and transparency varies significantly between schools with different accreditation statuses, where schools with higher accreditation tend to show more mature system development processes at the design and evaluation stages. Such variations in findings indicate that having a financial application alone does not automatically guarantee transparency if the development stages are not accompanied by leadership commitment and a culture of organizational openness in the school.

Supporting and Inhibiting Factors in the Development of School Financial Information Systems

The success of developing a school fund management information system (MIS) is greatly influenced by several supporting and inhibiting factors. Silvia (2026) identifies that the success of developing education MIS in Indonesia is determined by the readiness of technology infrastructure during the implementation stage, the commitment of institutional leaders from the needs analysis stage, and the digital competence of human resources, while failures in development are generally caused by resistance to change and the lack of ongoing training during the evaluation stage. These findings align with the results of Damri, Prasetyo, and Fazis (2025), which reveal that even though the competence of school treasurers in their study was adequate, limitations in internet connectivity remain the main obstacle to optimally implementing financial MIS.

Based on the synthesis of findings from sections 3.1 to 3.4, it can be concluded that the development of the Management Information System contributes to transparency in school fund management through three main mechanisms: aligning the system with reporting needs from the requirements analysis stage, standardizing report formats during the design stage to make supervision easier, and creating an electronic audit trail in the implementation and evaluation stages to reduce opportunities for misuse. That said, these benefits are only fully realized if each development stage is supported by strong leadership, adequate human resource competencies, and proper technological infrastructure, in line with Laudon and Laudon's (2015) system development framework.

4. CONCLUSION

This study shows that developing a Financial Management Information System, carried out through the stages of needs analysis, design, implementation, and evaluation, consistently helps improve the transparency of school fund management, whether through SIMDIK, ARKAS, cashless transaction systems, or independent financial recording systems. This contribution mainly happens by aligning the system with reporting needs, standardizing reporting formats, and creating an electronic audit trail that minimizes chances of fund misuse.

The implication of these findings for policymakers is the need to strengthen school principals' leadership capacity to guide each stage of the SIM development strategically, not just as a tech installation project, along with ongoing training for treasurers and school operators during the implementation and evaluation stages. For principals and school committees, these findings highlight the importance of involving stakeholders from the needs analysis stage so that the system developed truly meets transparency needs. For the community and parents, a well-developed SIM opens up greater opportunities for participation in monitoring the use of education funds.

This study has its limitations because it is a literature review that synthesizes previous research findings without collecting primary data, so generalizing the findings to schools with very diverse institutional and geographical characteristics should be done cautiously. Future research is recommended to conduct direct empirical testing, for example through case studies in one or several schools that are in the process of developing financial information systems, in order to strengthen the generalization of the role of system development stages in the context of transparency in school fund management in Indonesia.

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