
IMPLEMENTATION OF MANAGEMENT INFORMATION SYSTEMS IN EDUCATIONAL MANAGEMENT AT MUHAMMADIYAH AL-KAUTSAR HIGH SCHOOL, SPECIAL PROGRAM, KARTASURA

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Abstract

This study aims to analyze the implementation of a management information system in educational management at Muhammadiyah Al-Kautsar Senior High School, Special Program, Kartasura. Using a descriptive qualitative approach, the researcher conducted field observations, interviews with the principal, and documentation studies. The results indicate that the school has effectively integrated digital systems into academic and administrative activities, such as the LMS, online PPDB (School Student Registration), digital attendance, e-report cards, and digital payments. The implementation of this information system not only improves efficiency and communication between the school and parents but also supports the concept of environmental friendliness and improves the digital literacy of the school community.

Keywords: Information Systems, Management, Education Management

INTRODUCTION

The development of information and communication technology (ICT) has had a profound impact on various aspects of life, including the education sector. The rapid advancement of technology has allowed the educational landscape to transform significantly, making it more efficient, accessible, and affordable for a wide range of society. Digitalization in education has become an inevitable necessity, with more schools adopting information systems to improve various aspects of educational management (Kryshtanovych et al., 2023; Usman et al., 2023), both in academic and administrative realms. The successful implementation of technology can be seen at Muhammadiyah Al-Kautsar Senior High School in Kartasura, which has successfully integrated a

management information system in various educational and administrative activities. This achievement becomes an important subject for study, particularly to understand how the implementation of these technologies has had a positive impact on the educational process, as well as the challenges encountered during its adoption.

Management information systems (MIS) in schools refer to technology applications designed to support the effective and efficient management of information in both administrative and academic processes (Adhikari et al., 2024). In the context of secondary schools, the implementation of such systems encompasses various aspects, ranging from attendance management, grade reporting, online learning systems, to financial administration. Each of these systems is

designed to enhance the quality of educational services and ensure smooth school operations. The implementation of these systems at Muhammadiyah Al-Kautsar is particularly interesting to examine because this school represents an example of an educational institution that has proactively adopted technology to support educational processes. The use of various digital applications such as Learning Management Systems (LMS), digital attendance systems, and e-report cards indicates the school's commitment to transforming into a more efficient and modern institution in managing education (Tristawanti et al., 2025).

In the digital age, the integration of technology in the education sector is of paramount importance (Kalyani, 2024). Education, being a key element in human resource development, requires efficiency in both management and the execution of administrative tasks. Information systems used in modern schools can reduce the administrative burden, expedite communication between schools and parents, and provide students with broader access to materials and real-time evaluations of their learning progress. For instance, the use of LMS allows teachers to deliver learning materials online, assign tasks, and monitor students' progress without being limited by space or time constraints (Bradley, 2021). On the other hand, digital attendance and e-report card applications provide convenience for parents to monitor their children's attendance and academic performance, without needing to physically visit the school. These examples illustrate how technology can improve transparency, efficiency, and accessibility in the management of educational services.

However, the implementation of information systems in schools is not without its challenges. Some of the challenges commonly faced include technical issues such as system failures or limitations in technological infrastructure. Often, schools, particularly those in certain regions, lack the adequate infrastructure needed to support the deployment of more advanced systems. Technical issues such as unstable internet connections or inadequate hardware can hinder the smooth operation of information systems. Furthermore, human resource challenges, such as insufficient understanding or inadequate training for teachers and administrative staff in operating these systems, can also pose barriers to maximizing the benefits of the technology.

At Muhammadiyah Al-Kautsar, although these challenges exist, they have been addressed with various practical solutions. For example, the school has partnered with system developers to resolve technical issues and ensure the smooth operation of the system. Additionally, the school conducts regular training sessions for teachers and administrative staff to ensure that they are proficient in using the systems effectively. This demonstrates that, despite the challenges faced during the process of technological change, collaborative efforts and adequate training can overcome these hurdles, resulting in positive outcomes for all stakeholders involved in the school ecosystem.

The implementation of information systems in schools has a significant impact on improving both the efficiency of time management and the quality of educational services (Sudrajat et al., 2024). With integrated

systems in place, administrative processes that once took considerable time can now be performed more quickly and accurately. For example, the manual processing of grades used to take a significant amount of time and effort, but with the e-report card system, students' grades can be processed automatically and immediately made available to parents. Similarly, the digital attendance system connected to WhatsApp allows parents to monitor their children's attendance in real time, without needing to visit the school (Sumbaluwu et al., 2025). This not only speeds up communication but also reduces the potential for errors that often occur in manual administrative processes.

In addition, the use of information technology has a positive impact on the development of students' digital literacy skills. In today's digital era, the ability to operate technology has become an essential skill, both in education and the workforce. By using information systems in the educational process, students are not only learning the subject matter being taught but also developing digital skills that will be valuable in the future. By providing students with direct opportunities to engage with technology, the school contributes to the development of 21st-century skills that are highly demanded in the job market.

Implementing information systems, it is crucial for schools to have a sustainable development plan (Angelaki et al., 2024). The systems in place need to keep up with rapidly evolving technology and adapt to emerging needs and challenges. Muhammadiyah Al-Kautsar, for instance, plans to expand its information system, including the

digitization of financial management and expenditure monitoring. This will make it easier for the school to manage financial transactions in a transparent and efficient manner. Moreover, this development is expected to provide students with hands-on experience in digital-based entrepreneurship, further enriching their learning experience outside of the classroom.

The implementation of management information systems at Muhammadiyah Al-Kautsar is not just about the introduction of technology, but rather about integrating this technology into the school culture and the daily lives of students and faculty. This digital transformation has far-reaching effects that go beyond simplifying administrative processes. Its impacts can also be seen in other areas, such as the improvement of teaching quality, increased parental involvement in their children's education, and the development of students' digital skills. Furthermore, the use of technology in education also helps create a more sustainable environment, as the reduction in paper usage through digital administration and learning aligns with global environmental goals that are increasingly important.

This research aims to explore in depth the implementation of management information systems at Muhammadiyah Al-Kautsar Senior High School, particularly in the areas of administrative management, learning, and communication with parents. This study will analyze the systems used, the process of implementation, the challenges encountered, and the impact on the quality of educational services at the school. By gaining a better understanding of how technology is

implemented in this school, it is hoped that this research will provide broader insights for other schools considering similar systems. Additionally, this study is expected to offer recommendations on how to address existing challenges and improve the effectiveness of information systems in supporting better educational management.

METHOD

This research is a descriptive qualitative study. It is called qualitative research because the primary data source is the words and actions of the people observed or interviewed. This approach allows researchers to capture the meanings, patterns, and social processes that occur in a particular situation (Pugu et al., 2024).

This research was conducted at Muhammadiyah Al-Kautsar Senior High School, Kartasura Special Program, located in Kartasura District, Sukoharjo Regency, Central Java Province. This school was chosen because it has implemented an information system to support managerial, administrative, and academic services.

Data was collected using three main techniques, namely observation, interviews and documentation (Priadana et al., 2021). Direct observations were made of the use of information systems in the school environment, such as the use of applications for attendance, grade processing, or student data management. Interviews were conducted with the principal as the primary source. These semi-structured interviews discussed the purpose of using the information system, its management process, obstacles encountered, and its impact on the

effectiveness of educational services. Documentation was used to collect supplementary data in the form of information system screenshots, brochures, system usage manuals, school reports, and other documents relevant to the school information system.

The data analysis technique used in this study refers to the Miles and Huberman model, which includes three stages: Data reduction, which is the process of selecting and simplifying data from interviews and observations relevant to the school information system. Data presentation, in the form of descriptive narratives and tables, makes it easier for readers to understand the process and application of the information system. Conclusions are drawn by interpreting the meaning of the data and identifying important patterns regarding the use of the information system in schools (Sugiyono et al., 2021). With this method, researchers are expected to be able to describe in depth how the information system is implemented at Muhammadiyah Al-Kautsar High School, Special Program, Kartasura, and how the system supports the overall management of the school.

RESULT

The research results reveal a detailed understanding of how the implementation of a management information system (MIS) at Muhammadiyah Al-Kautsar Senior High School, Kartasura, has impacted the school's academic and administrative processes. The findings highlight both the advantages and challenges of using such systems in an educational setting, providing valuable insights into the role of technology in

improving school operations and educational services.

The Implementation of Information Systems in Learning

Muhammadiyah Al-Kautsar Senior High School has shown a strong commitment to integrating digital technologies into its educational processes. One of the key systems adopted by the school is the Learning Management System (LMS), which plays a central role in supporting teaching and learning. Over the past four years, the school has used different LMS platforms, namely Quipper for grades 10 and 11 and Kelas Pintar for grade 12 students. The LMS platforms have significantly changed how the school conducts its learning processes by providing teachers with tools to upload materials, assignments, and conduct evaluations online. This shift to digital learning has enabled the school to create a more flexible learning environment for students, one where learning is no longer confined to the classroom.

The introduction of the LMS platforms allows teachers to create and distribute educational materials and assignments more efficiently. The auto-

correction feature of the platforms has also greatly aided in speeding up the assessment process. Teachers can now evaluate students' work more quickly, and with greater objectivity, because the system automatically marks assignments and provides immediate feedback. This improvement has not only enhanced the efficiency of the learning process but also contributed to a reduction in paper usage, aligning with the school's environmentally friendly initiatives.

For students, the LMS provides an easy-to-access platform where they can engage with the learning material outside of school hours. This has made learning more accessible, especially for students who may need additional time to study or who have irregular school attendance. Moreover, the flexibility to access materials at any time helps support personalized learning, which caters to students' individual learning speeds and needs. It is also worth noting that the LMS facilitates easier communication between students and teachers, as students can ask questions and receive feedback without the need for physical meetings.

Table 1: LMS Utilization and Benefits

LMS Platform	Purpose	Grade Levels	Key Benefits
Quipper	Learning management, assignment submissions, and evaluations	10th and 11th Grades	Easy access to materials, real-time assignments, and automated grading system.
Kelas Pintar	Learning management, course materials, assignments, and evaluations	12th Grade	Personalized learning, better time management for students, and increased engagement with online resources.

This table summarizes the main platforms used in the school and their

benefits, demonstrating the ways in which these systems support both

teachers and students in managing the learning process more effectively.

The school's integration of digital systems also includes online grade reporting. The e-report card system allows teachers to input student grades digitally and immediately share them with parents. This system reduces the time spent on manually compiling and distributing grades and enhances the transparency of the evaluation process. Parents can easily access their children's grades, which helps them stay informed about their academic progress and provides a more direct channel of communication with the school. The system also ensures that grades are stored securely, preventing the loss of records and facilitating easier access for future reference.

Administrative Efficiency and Communication

In addition to the academic improvements brought about by the adoption of LMS, the implementation of information systems has also significantly improved the administrative efficiency of the school. The school has adopted several digital applications to streamline administrative processes, such as online student registration (PPDB), digital attendance systems, and digital payment systems. These systems have

helped to reduce the time and labor involved in traditional administrative tasks, such as student registration and payment processing, which previously required manual paperwork and in-person visits to the school.

The online student registration (PPDB) system is particularly useful during the school's intake process. Parents and prospective students can complete the registration process online, reducing the need for physical visits to the school. This system also allows the school to maintain more accurate records of student registrations and to communicate important updates or requirements to parents through automated notifications.

Similarly, the digital attendance system has transformed how student attendance is managed. The system, which is integrated with WhatsApp, sends real-time attendance updates to parents. This immediate feedback ensures that parents are kept informed about their child's attendance without needing to contact the school directly. The system has improved communication between parents and the school and has contributed to better monitoring of student behavior and punctuality.

Table 2: Administrative Systems and Impact

Administrative System	Purpose	Benefits
Online PPDB	Online registration for new students	Simplifies the registration process, increases accessibility for parents.
Digital Attendance	Real-time attendance tracking via WhatsApp	Enhances communication between school and parents, immediate updates.
Digital Payment System	Payment for tuition and other fees via mobile platforms	Reduces in-person visits, speeds up financial transactions.

The implementation of digital payment systems, such as payments via QR codes and mobile banking applications, has made it easier for parents to pay tuition and other school fees without needing to physically visit the school. These online systems have not only saved time for both parents and staff but have also improved financial record-keeping by reducing the risk of errors associated with manual transactions. Furthermore, digital payment systems align with the school's push for environmental sustainability by reducing paper usage and unnecessary physical paperwork.

Impact on School Services and Parental Involvement

The implementation of these information systems has led to significant improvements in school services. By using digital systems, the school has been able to enhance the overall efficiency of its administrative processes, leading to smoother day-to-day operations. The digital systems have made services more accessible to parents, who no longer need to physically visit the school to manage administrative matters. This has been particularly helpful for parents who have busy schedules or live far from the school, as they can now complete tasks such as checking attendance or paying fees remotely.

Additionally, the integration of information systems has increased parental involvement in their children's education. With real-time updates on their child's attendance and academic performance, parents are more engaged in their child's learning journey. This has fostered a greater sense of partnership between parents and the school, as parents can quickly address

any concerns regarding their child's academic progress or school attendance.

While the adoption of these digital systems has undoubtedly improved operational efficiency, it has also made the school more responsive to student and parent needs. The ability to provide instant access to information has led to quicker decision-making and better communication, ensuring that issues are addressed promptly and that the needs of students and parents are met effectively.

Challenges and Solutions

Despite the many benefits of implementing these systems, the school has faced several challenges, primarily related to technical issues and infrastructure limitations. Some of the technical challenges include server overloads, system glitches, and power outages, which have occasionally disrupted the smooth operation of the information systems. However, the school has worked proactively to address these issues by collaborating with system developers and IT support teams to maintain the system's reliability.

For example, during periods of heavy usage, such as during exams or registration periods, the system sometimes experiences slowdowns. To address this, the school has made upgrades to its server capacity and conducted regular system maintenance. Additionally, power outages have occasionally caused disruptions in the system's functionality. In response, the school has invested in backup power solutions to ensure that the systems remain operational during such disruptions.

CONCLUSION

The implementation of an information system at Muhammadiyah

Al-Kautsar High School, Kartasura, has significantly improved various aspects of the school's operations, particularly in the areas of educational services, administration, and communication. One of the key benefits has been the enhancement of the learning process. By integrating technology into the classroom through the use of Learning Management Systems (LMS), teachers are able to distribute materials, track student progress, and provide real-time feedback more efficiently. This not only simplifies the teaching process but also makes learning more accessible and flexible for students, especially with the ability to access materials outside of classroom hours. The system also allows for more interactive and dynamic learning experiences, helping to engage students in ways that traditional methods could not achieve.

In addition to its impact on teaching, the information system has greatly improved financial administration at the school. The digital payment system for tuition fees and other school-related payments has streamlined the entire process, making transactions quicker and more transparent. Parents are now able to pay fees remotely through mobile banking or QR codes, reducing the need for in-person visits and minimizing the time spent on financial transactions. This also reduces the risk of errors associated with manual payment processing, ensuring more accurate financial records. The adoption of online student registration has further eased administrative work, allowing the school to handle applications more efficiently while reducing paperwork.

The attendance system, integrated with WhatsApp, has made it easier for both students and parents to stay

informed about daily attendance. This real-time communication ensures that parents are notified immediately if their child is absent, enabling them to take prompt action if necessary. This feature has not only helped parents stay better informed but has also fostered a stronger connection between the school and the families, encouraging greater parental involvement in their children's education.

Moreover, the information system has proven to be an essential tool for reporting learning outcomes. Teachers can now input grades and share them with parents digitally, allowing for faster feedback and increasing transparency in the assessment process. This immediate access to academic progress enables parents to be more involved in their child's educational journey, which is crucial for supporting students outside of school.

Despite these successes, the implementation process was not without challenges. Technical glitches, such as system bugs and server overloads, occasionally disrupted the school's operations. In addition, the school faced limitations in its technological infrastructure, especially during peak periods when the system was under heavy use. However, these issues were quickly addressed through a combination of internal troubleshooting and external technical support from the system developers. The school has also made ongoing investments in its infrastructure to ensure that the system can handle increasing demands.

Looking forward, Muhammadiyah Al-Kautsar High School plans to expand the use of digital systems beyond educational and administrative functions. The

development of a comprehensive system that includes the digitalization of school business units, such as managing the school's finances and operational activities, is part of the school's broader strategy to create a fully integrated technological environment. By doing so, the school demonstrates its readiness to embrace

REFERENCES

- Adhikari, N. P., Budhathoki, J. K., & Adhikari, S. (2024). Management Information Systems' Role and Effects on School Administration: A Review. *Perspectives on Higher Education*, 14, 81-94.
- Angelaki, M. E., Bersimis, F., Karvounidis, T., & Douligeris, C. (2024). Towards more sustainable higher education institutions: Implementing the sustainable development goals and embedding sustainability into the information and computer technology curricula. *Education and Information Technologies*, 29(4), 5079-5113.
- Bradley, V. M. (2021). Learning Management System (LMS) use with online instruction. *International Journal of Technology in Education*, 4(1), 68-92.
- Kalyani, L. K. (2024). The role of technology in education: Enhancing learning outcomes and 21st century skills. *International Journal of Scientific Research in Modern Science and Technology*, 3(4), 5-10.
- Kryshtanovych, S., Inozemtseva, O., Voloshyna, O., Ostapiovska, I., & Dubrova, O. (2023). Modeling the Effective Digitalization of the Education Management System in the Context of Sustainable Development. *International Journal of Sustainable Development* \& further digital transformation and continue adapting to the evolving landscape of education. The school's commitment to technological innovation highlights its forward-thinking approach and its dedication to providing a high-quality educational experience in the digital age.
- Planning, 18(5).
- Priadana, M. S., & Sunarsi, D. (2021). *Metode penelitian kuantitatif*. Pascal Books.
- Pugu, M. R., Riyanto, S., & Haryadi, R. N. (2024). *Metodologi Penelitian: Konsep, Strategi, dan Aplikasi*. PT. Sonpedia Publishing Indonesia.
- Sudrajat, J., Mayasari, A., & Arifudin, O. (2024). Enhancing the quality of learning through an e-learning-based academic management information system at Madrasah Aliyah Negeri. *EDUKASIA Jurnal Pendidikan Dan Pembelajaran*, 5(2), 621-632.
- Sugiyono, S., & Lestari, P. (2021). *Metode penelitian komunikasi (Kuantitatif, kualitatif, dan cara mudah menulis artikel pada jurnal internasional)*. Alfabeta Bandung, CV.
- Sumbaluwu, H. F. K., Angreni, D. S., Pusadan, M. Y., Lamasitudju, C., & Lapatta, N. T. (2025). Implementation of QR Code in A Student Attendance Information Based On WhatsApp Gateway. *JUPI (Jurnal Ilmiah Penelitian Dan Pembelajaran Informatika)*, 10(2), 1517-1527.
- Tristawanti, K., Muhyidin, M., Maesaroh, M., Salim, M. A., & Fauziah, M. (2025). Implementation of Digital-Based Management Information Systems in High Schools. *Contemporary Journal of Applied Sciences*, 3(11), 725-738.

Usman, H. M., Mudhofir, M., &
Gusmian, I. (2023). The important
role of academic supervision in
improving the quality of education.

Kontigensi: Jurnal Ilmiah Manajemen,
11(2), 704–716.