

Development of Information System Management in the Implementation of Character Education

Abdul Rohman¹, Asep Saepul Hidayat², Fini R Permatasari³
Educational Administration Galuh University, Indonesia^{1,2,3}

Corresponding Email: asepsaepulhidayat@unigal.ac.id

ABSTRACT: Character education is an important foundation in building a complete individual and a civilized society. More than just the transfer of academic knowledge, character education focuses on the formation of moral values, ethics, and positive behavior that will guide a person throughout his life. In this fast-paced modern era, where social and technological changes are taking place rapidly, the role of character education is becoming increasingly crucial. Based on this, information system management is a form of solution in managing the education system, both as a form of process foundation, control strategy and risk management in the development of science and technology. Through research with a qualitative approach, this study produces the following conclusions: (1) The role of information system management in character education acts as a supporting strategy for the education management process, a strategy for controlling the risk of negative impacts of scientific, cultural and technological developments, and acts as a supporting media; (2) The important stage in implementing information system management in character education is a total integration strategy for all components and elements of character education management; (3) The application of Information Systems Management (MIS) in character education can be very effective in supporting, monitoring, and evaluating character-building efforts in educational institutions, namely through the following strategies: (a) developing an integrated digital platform; (b) strengthening data collection and analysis; (c) integration with academic information systems; (d) training and capacity building for users; (e) involvement of specific stakeholders and communities.

Keywords: Information Systems Management, Character Education, MIS-Character Education.

ABSTRAK: Pendidikan karakter merupakan fondasi penting dalam membangun individu yang utuh dan masyarakat yang beradab. Lebih dari sekadar transfer pengetahuan akademik, pendidikan karakter berfokus pada pembentukan nilai-nilai moral, etika, serta perilaku positif yang akan membimbing seseorang sepanjang hidupnya. Di era modern yang serba cepat, di mana perubahan sosial dan teknologi berlangsung dengan pesat, peran pendidikan karakter menjadi semakin krusial. Berdasarkan hal tersebut, manajemen sistem informasi menjadi salah satu bentuk solusi dalam pengelolaan sistem pendidikan, baik sebagai landasan proses, strategi pengendalian, maupun manajemen risiko dalam perkembangan ilmu pengetahuan dan teknologi. Melalui penelitian dengan pendekatan kualitatif, penelitian ini menghasilkan beberapa kesimpulan sebagai berikut: (1) peran manajemen sistem informasi dalam pendidikan karakter berfungsi sebagai strategi pendukung dalam proses manajemen pendidikan, sebagai strategi pengendalian risiko terhadap dampak negatif perkembangan ilmu pengetahuan, budaya, dan teknologi, serta sebagai media pendukung; (2) tahapan penting dalam penerapan manajemen sistem informasi dalam pendidikan karakter adalah strategi integrasi total seluruh komponen dan unsur dalam pengelolaan pendidikan karakter; dan (3) penerapan Manajemen Sistem Informasi (MSI) dalam pendidikan karakter dapat sangat efektif dalam mendukung, memantau, dan mengevaluasi upaya pembentukan karakter di lembaga pendidikan, yaitu melalui strategi berikut: (a) pengembangan platform digital yang terintegrasi; (b) penguatan pengumpulan dan analisis data; (c) integrasi dengan sistem informasi

akademik; (d) pelatihan dan penguatan kapasitas bagi pengguna; serta (e) pelibatan pemangku kepentingan dan komunitas terkait.

Kata kunci: Manajemen Sistem Informasi, Pendidikan Karakter, MSI–Pendidikan Karakter.

INTRODUCTION

Complex administrative management is a major problem in school management. This includes class scheduling, tuition payments, attendance records, and more. Poor administrative management can lead to confusion, late payments, and loss of important data. Utilizing technology such as an education management platform can help address these issues. Platforms like AOneSchools offer features like schedule management, online payments, and student attendance tracking. By using this technology, educational institutions can automate many administrative tasks, reduce human error, and increase overall efficiency.

Management information systems (MIS) play a crucial role in modern education. MIS helps improve the efficiency, effectiveness, and quality of the learning process and school administration. With MIS, data can be managed and accessed more easily, supporting better decision-making, and enhancing communication and collaboration between various stakeholders.

The development of information and communication technology must continue to be addressed, considering its significant positive aspects. Furthermore, it is wise to anticipate and control the impact of technological development to prevent threats to local cultures that hold noble values. The most fundamental threat to globalization is cultural globalization, which coexists with economic organizations. Therefore, the strategy that must be prioritized is a cultural strategy, which is no less important than an economic strategy. Indonesia has a department capable of acting as an umbrella for the world of education: the Department of National Education, whose primary mandate is to develop educated and cultured Indonesians. (Abdul Rohman, 2024:2).

Graduate quality and character education are closely related. Good character education will produce graduates who are not only academically intelligent but also possess high moral and ethical values, thereby positively impacting society. Character education refers to systematic and planned efforts to instill noble values in students. The goal is to shape individuals with strong personalities, who are responsible, and who are able to contribute positively to their environment. The quality of graduates reflects the quality of individuals produced by an education system. Quality graduates not only possess adequate knowledge and skills but also possess good character and are ready to enter society. However, as explained above, if the management system is not controlled, the threat to the quality of graduates with noble character as required by national education will become a negative threat.

Character education is a crucial foundation for developing individuals with integrity and responsibility amidst globalization. An increasingly relevant and effective

approach to implementing character education is integrating local cultural values. This literature review will examine various literature related to the concept, urgency, implementation strategies, and challenges of character education based on local cultural values.

Character education is defined as a conscious and planned effort to instill noble values in students so that they become part of their personality (Lickona, 1991). According to Lickona, character encompasses three integral aspects: moral knowing, moral feeling, and moral action. Character education aims to develop students' ability to make ethical decisions, motivate them to act morally, and demonstrate these moral actions in their daily lives. Meanwhile, Daryanto (2013) emphasizes that character education is a process of habituating individuals to good behavior, morality, and noble character. The development of science and technology (IPTEK) can negatively impact the quality of education graduates, particularly in terms of morals, social interaction, and critical thinking skills. While IPTEK provides easy access to information, it can also be misused for negative, detrimental purposes. Based on the description above, the next question is: What is the role of information systems management in supporting the optimization of character education success?.

METHODS

This study is the result of a scientific study, conducted using exploratory descriptive methods and a qualitative approach. This study focuses on the development of information systems management in the application of character education. This research uses a qualitative approach, namely describing and analyzing the focus of the study to answer the research problem. As developed by Lexy J. Moleong (2012: 212), this approach focuses on an in-depth understanding of the phenomenon under study in its natural context, rather than testing hypotheses or generalizing the results to a wider population. Qualitative research designs tend to be flexible and evolve throughout the research process. Researchers can adjust research questions, data collection methods, or even the focus of the research based on initial findings in the field. This differs from quantitative designs, which tend to be more rigid and structured from the outset.

Data for this study were obtained from key informants, supporting informants, and expert informants, producing primary, secondary, and tertiary data. In qualitative research, data collection is typically conducted in natural settings, using methods such as participant observation, in-depth interviews, and documentation (Sugiyono, 2017:63). Data analysis involves sequential stages of data collection, data reduction, data display, and drawing conclusions (Lexy J. Moleong, 2018:335). The discussion of research data follows patterns of induction, typology, conceptualization, and interpretation. To ensure the validity of findings, the study employed extended researcher engagement, in-depth observation, and triangulation. Data sources were carefully selected for relevance and competence, and the validity of the data was assessed using criteria of credibility, transferability, dependability, and confirmability.

RESULTS AND DISCUSSION

The Role of Information Systems Management in the Implementation of Character Education

An effective education management system is the foundation for creating quality education, including character formation; however, in Indonesia, despite various improvement efforts, several problems remain within the education management system that directly or indirectly impact character education, including ineffective decentralization marked by the lack of uniform standards in policy implementation, budget allocation, and curriculum development across regions, disparities in the quality of teachers and education personnel who serve as the spearhead of character education but may lack understanding, role-model capacity, or adequate welfare, a burdensome and inflexible curriculum that does not provide sufficient space for character-stimulating activities such as extracurricular programs, values-based projects, or social-emotional learning, overly academic-oriented assessment systems that cause character development to be considered less important than cognitive achievement, inadequate management of facilities and infrastructure that results in unsupportive, dirty, or unsafe school environments, suboptimal community and parental participation that weakens the shared responsibility of character education beyond the school setting, and the persistence of corruption and low accountability within the system that undermines the values of honesty, integrity, and responsibility being taught. These seven problems represent only a portion of the broader challenges in educational management within institutions and clearly demonstrate the crucial role of information systems management in supporting the optimization of school management quality, particularly in the implementation of character education, which directly influences the quality of graduates.

In the educational context, information systems are an integral component of the learning process, with a high degree of interdependence between the two. Education acts as the driver of the educational information system, while the information system itself influences and determines the effectiveness of educational performance. Educational information systems are composed of three essential elements: hardware, software, and human components (brainware), all of which work together to support, manage, and enhance the learning and administrative processes. In management theory to run an educational institution, the strategy of the educational institution and the strategy of the information system must support each other so as to create a competitive advantage for the educational institution concerned. When viewed from a macro perspective, outside the educational institution there are two dominants, namely competing educational institutions and their information systems that have the same components. In addition, there are government components as policy makers and regulations in the field of education, society, and so on. These external educational institution components directly or

indirectly influence the components of the educational institution internally. From the information system, external factors are technological developments, both hardware and software. A management information system is an activity carried out by a group of elements within an organization that are related to solving a problem by utilizing management resources, thus providing information that supports decision-making.

There are various basic concepts of management information systems, such as the following: (1). The concept of information is used to place something in a presentation with a relationship of time and quality; (2). The concept of humans as information managers. Human ability to manage information determines the limitations of information systems and suggests the basis for their design; (3). The concept of systems. In the concept of management systems, a system is needed to understand and design the development of these information systems; (4). The concept of organization and management. Information systems exist within organizations and are designed to support management functions. Information is an important determinant of organizational form; (5). The concept of decision-making should reflect a rational approach to optimization, but also behavioral theory in organizational decision-making; (6). The concept of information value. This concept sees information changing decisions; changes in the value of outcomes can be determined by the value proposition of information. Information systems in institutions can also be used as open systems, where resources interact with the environment.

In management information systems, there are various objectives that you should be aware of, as follows: (1). Management information systems can be used to provide information and will be used for planning, controlling, evaluating and continuous improvement; (2). Management information systems also have the aim of providing information for decision making; (3). Finally, this information system also has the aim of providing information that will be used in calculating cost prices, recruitment or other managerial purposes. Information systems management in education plays several key roles: ensuring timely and accurate data access, supporting critical skills and effective planning, guiding investments, enhancing productivity, facilitating transactions and cost management, maintaining operational and management control, supporting strategic planning, analyzing information needs, and providing managers with relevant data for decision-making and organizational tasks.

The stages in a management information system include: (1) the system analysis stage; (2) the system design stage; (3) the system implementation stage; (4) the system operation and maintenance stage; and (5) the system development stage. Management information systems (MIS) play a crucial role in the implementation of character education. These include: (1) supporting media for the management system; (2) information sources; (3) optimizing the educational administration system; (4) controlling and accelerating the process; (5) supporting openness in educational management; (6) building access to broader cooperation and

information, which ultimately supports the implementation of character values in education.

Stages of Implementing Information Systems Management in Character Education

The stages in information systems management for the implementation of character education include the system analysis stage, system design stage, system implementation stage, system operation and maintenance stage, and system development stage, all of which are directly applied in managing character education. These stages support curriculum management in character education, which includes planning, implementation, monitoring, and evaluation of activities related to data collection on subjects taught, available time, number of teachers and teaching hours, number of classes, scheduling, teaching and learning activities, required textbooks, semester programs, evaluations, annual programs, educational calendars, curriculum changes, and innovations in curriculum development, as well as student management that involves planning, organizing, implementing, monitoring, and evaluating activities related to new student admissions, admission testing, class placement and allocation, student activities, motivation, and efforts to improve graduate quality.

In addition, information systems management also supports the management of educational personnel in character education, including planning, organizing, implementing, supervising, and evaluating recruitment activities, transfers, assignment letters, personnel files, general personnel lists, and efforts to improve human resources and employee performance; financial management of educational financing that includes planning, organizing, implementing, supervising, and evaluating incoming and outgoing funds, exploration of school funding sources, and efficient fund utilization; management of educational facilities and infrastructure involving planning, organizing, implementing, supervising, and evaluating procurement, distribution, inventory use, maintenance, exchange, and disposal of goods; school administration management aimed at providing optimal services related to institutional activities; management of community relations through public relations planning and collaboration; management of educational support units such as guidance and counseling, libraries, health and safety centers, scouting, sports, and arts; management of extracurricular and student activities conducted outside classroom and curriculum hours to develop students' potential and talents; and management of special educational services in character education, including services such as food provision, transportation, and special guidance at home.

Strategy for Implementing Information Systems Management in Character Education

The implementation of character education in the digital era requires an effective information systems management strategy, as information systems can serve as a strong backbone for comprehensively managing, monitoring, and evaluating character education programs through several key strategies, including the

development of an integrated information systems platform that is capable of managing various aspects of character education ranging from planning, implementation, monitoring, to evaluation, with features such as a student profile database that stores data on students' character, development, and achievements including anecdotal notes, teacher observations, self-assessment results, and parental feedback, a learning planning module that enables teachers to design character learning modules aligned with the curriculum and intended values in the form of lesson plans, co-curricular activities, or character-based projects, monitoring and reporting features that provide tools for teachers and administrators to track student progress in character aspects and generate regular reports for parents and stakeholders, a digital resource library that offers easy access to learning materials, inspirational videos, articles, and references related to character education for teachers, students, and parents, and discussion and collaboration forums that enable interaction among teachers, students, and parents to share experiences, challenges, and best practices.

In addition, effective information systems management involves utilizing data and analysis for decision-making by identifying patterns and trends in student behavior, participation in character activities, or responses to specific interventions in order to reveal strengths and areas for improvement, personalizing character education approaches based on students' individual needs and characteristics, evaluating program effectiveness through objective data on improvements in character indicators, and producing evidence-based reports for stakeholders, while also emphasizing user training and capacity building through system usage training, digital literacy enhancement, data-based decision-making training, and ongoing technical support. Equally important is strengthening data security and privacy by implementing strict security protocols such as data encryption, multi-factor authentication, and regular security audits, ensuring compliance with applicable data protection regulations, educating users on privacy awareness, and managing access rights based on user roles, as well as integrating communication applications to facilitate efficient communication between schools, teachers, students, and parents. Through the comprehensive implementation of these strategies, information systems management can become a powerful tool in supporting the successful implementation of character education and shaping the next generation with integrity and responsibility.

Discussion

An educational management information system (IM) is a combination of information technology applications and human resources to assist the decision-making process in the field of education by selecting, storing, processing, and retrieving data. This data is empirical, or actual facts, that actually exist and can be accounted for (Saputra & Ikasari, 2023). As explained above, problems within the Indonesian educational management system have a significant impact on the

effectiveness of character education. To realize strong and equitable character education, holistic improvements in educational management are needed, starting from policies at the central level, implementation at the regional level, improving teacher quality, developing a balanced curriculum, and actively involving all stakeholders. Without good management, character education will remain merely a slogan without meaningful implementation.

The purpose of a Management Information System (MIS) is fundamental within an institution. An MIS is designed to provide the organization with relevant and useful information to support management decisions, encompassing both routine operational decisions and strategic planning. In essence, an MIS delivers data and information to organizational managers to facilitate the effective execution of their responsibilities (Ahmad, 2018). According to Robinson (1997:5), strategy is a pattern of resource allocation decisions made to achieve organizational goals. Furthermore, this system also filters, organizes, and selects data and provides information to school stakeholders and the general public (Sakti & Dwihanus, 2023). It should also be emphasized that information systems are increasingly needed by educational institutions, particularly for quality control purposes, improving the flow of information, and building collaborations or alliances with other parties that can enhance the institution's value (Fatah, 2008).

Another role of management information systems in the education system is transparency, which refers to openness in providing relevant information to all stakeholders, including students, parents, and the community. Transparency is crucial for building trust and ensuring that all parties have access to adequate information about the operations and performance of educational institutions (Habibatulloh, Widodo, & Murni, 2022).

What factors influence the implementation of management information systems, as follows: Supporting factors for the implementation of management information systems: (1) completeness of supporting facilities (hardware and software); (2) cost capabilities; (3) competent human resources in the field of technology; and (4) support from internal and external parties of the school. (Abdul Rohman, 2025). So that the school management information system becomes a system media used by educational institutions which is utilized to improve services to students and others. This school information system has many benefits for schools in the field of education, both in processing teaching data, value data, and other data related to learning in this case especially in schools. (Falah & Setiawan, 2022).

According to Hary Gunarto in Budi Sutedjo, there are three types of data and information control, namely: Information System Control, Procedural Control, and Facility Control. These three control procedures, if formulated and implemented properly, are believed to provide optimal security for data and information contained in the information system, and are able to reduce the risk of security disruptions to the entire Information System. The translation of the Minister of National Education Regulation Number 41 of 2007 then gave birth to an Information management or

called the Management Information System (MIS) which was included in the study of the world of education or called the Education Management Information System (SIMP). In this case, in general, it explains the relationship between information management and the world of education in business competition from a business management perspective, that the development of the Management Information System is a system used in managerial decision making (Nurdin, 2006, p. 242) (policy makers (Prasetyantoko, 2001, p. 73) or heads of divisions) with the operational (technical) stage. In an effort to obtain precise, accurate data and information that can serve as a standard for decision-making (Rusdiana, 2019, p. 41).

With current developments, the world of education is required to carry out more detailed and solution-oriented processes that can be understood by anyone. The digital world is one step in utilizing the era of modernization 5.0 as an innovation in the world of education to conduct academic studies (Maunah, 2017, p. 181) to be developed by utilizing existing technology, particularly digital technology. Educational Information Systems Management constitutes a structured framework developed to optimize administrative and managerial functions within educational institutions (Kantaprawira, 2004:82). Its implementation is intended to systematically support core management processes, including planning, organizing, staffing, directing, evaluating, coordinating, and budgeting, thereby enhancing the efficiency and effectiveness of operational goal attainment within the organization (Boedi, 2021:8).

CONCLUSION

1. The role of information systems management in character education serves as a supporting strategy for the education management process, a strategy for controlling the risk of negative impacts of scientific, cultural, and technological developments, and as a supporting medium.
2. A crucial stage in implementing information systems management in character education is a total integration strategy across all components and elements of character education management. The stages of information systems management in character education implementation include: (a) system analysis; (b) system design; (c) system implementation; (d) system operation and maintenance; and (e) system development, which is directly applied in managing the implementation of character education.
3. Developing a strategy for implementing Information Systems Management (MIS) in character education can be highly effective in supporting, monitoring, and evaluating character building efforts in educational institutions, namely through the following strategies: (a) development of an integrated digital platform; (b) strengthening data collection and analysis; (c) integration with academic information systems; (d) training and capacity building for users; (e) involvement of specific stakeholders and communities..

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to all parties who contributed to the completion of this study. Special thanks are extended to the lecturers and academic community of the Educational Administration Study Program, Postgraduate Program, Galuh University, for their academic guidance, support, and constructive input throughout the research process. The authors also appreciate the cooperation and openness of all informants and participants who provided valuable data and insights that enriched this study. Furthermore, appreciation is given to colleagues and reviewers who offered meaningful suggestions to improve the quality of this manuscript. Finally, the authors acknowledge all individuals and institutions whose direct or indirect support made this research possible, while any remaining limitations remain the sole responsibility of the authors.

REFERENCES

- Ahmad, Lukman, & Munawir. (2018). *Management Information Systems: A Reference Book*. Aceh: Lembaga KITA.
- Asep Saepul Hidayat, Abdul Rohman, & Ading RM. (2025). *Basic Skills for Human Resources*. Bandung: Haura Creative.
- Asep Saepul Hidayat, Abdul Rohman, & Ading RM. (2025). *Education, Character, and Character Education*. Bandung: Haura Creative.
- Asep Saepul Hidayat, Abdul Rohman, & Ading RS. (2025). *Character-Based School Management (MSBK)*. Bandung: Haura Creative.
- Budi Sutedjo Dharma. (2002). *Information Systems Planning and Development* (First Edition). Yogyakarta: ANDI.
- Falah, A. (2015). The success of Islamic religious education learning at SD 01 Karangmalang Gebog Kudus. *Elementary*, 3, 171–195.
- Habibatulloh, K. N., Widodo, S., & Murni, T. (2022). A study of accountability, transparency of school financial management, and the quality of educational services in public senior high schools in Kaur Regency accredited A, B, and C. *The Manager Review*, 4(1), 129–154.
- Kantaprawira, R. (2004). *Indonesian Political System*. Bandung: Sinar Baru Algensindo Offset.
- Lexy J. Moleong. (2004). *Qualitative Research Methodology*. Bandung: PT Remaja Rosdakarya.
- Lickona, T. (1991). *Educating for Character: How Our Schools Can Teach Respect and Responsibility*. New York: Bantam Books.
- Maunah, B. (2017). *Islamic Education Supervision (Theory and Practice)*. Kalimedia.
- Nanang Fatah. (2008). *Foundations of Educational Management*. Bandung: PT Remaja Rosdakarya.
- Nurdin, A. (2006). *Quranic Society*. Jakarta: Erlangga.
- Robinson, P., & Pearce, J. (1997). *Strategic Management: Formulation, Implementation, and Control*. Jakarta: Binarupa Aksara Publishers.

- Rusdiana. (2019). *Educational Management Information System (Concepts, Principles, and Applications)*. Bandung: Research Center of UIN Sunan Gunung Djati.
- Sakti, S. D. O., & Dwihanus. (2023). The role of management information systems (MIS) in decision making. *Journal of Management and Creative Economy*, 1(1), 212–225.
- Saputra, A., & Ikasari, I. H. (2023). Management information systems in education. *Journal of Informatics and Innovation Research*, 1(1), 126–129.
- Setiawan, T. (2022). The influence of corporate social responsibility, millennial leadership, and gender diversity on company value (Empirical study of LQ-45 index companies for the 2017–2020 period). *Owner: Research and Accounting Journal*, 6(3), 3261–3269.
- Sudjana, I. M. (2009). *Local Wisdom and the Environment*. Jakarta: Obor Indonesia Foundation.
- Sugiyono. (2019). *Quantitative and Qualitative Research Methodology and R&D*. Bandung: Alfabeta.