

Management Strategy of Educational Administration through Academic Information Systems

Hasnah¹, Wilrahmi Izati², Hamdani Abdi³, Syamsul Kurniawan⁴, Hamam Burhanuddin⁵

^{1,2&3} Sekolah Tinggi Agama Islam Pengembangan Ilmu Qur'an Padang, West Sumatra, Indonesia.

⁴ Universitas Islam Negeri Sunan Gunung Djati Bandung, Jawa Barat, Indonesia.

⁵ Universitas Islam Negeri Ar-Raniry, Banda Aceh, Indonesia

*Correspondence to: hasnah@staipiq.ac.id

Abstract: The rapid development of information and communication technology has significantly influenced the management of higher education institutions, particularly in academic administration. Higher education institutions are required to adopt effective information systems to enhance efficiency, transparency, and service quality. STAI-PIQ West Sumatra has implemented an Academic Information System (SIKAD) as part of its educational administration management strategy. This study aims to analyze the implementation of educational administration management through an academic information system at STAI-PIQ West Sumatra. The research employed a descriptive qualitative approach, with data collected through observation, documentation, and literature review. Data were analyzed using thematic analysis to identify patterns and roles of the academic information system in educational management. The findings indicate that the implementation of SIKAD supports integrated academic management processes, including planning, implementation, and evaluation of academic activities. The system facilitates efficient management of academic data related to students, lecturers, curriculum, scheduling, assessment, and financial administration. Furthermore, SIKAD contributes to improved administrative efficiency, data accuracy, and managerial decision-making, thereby supporting the achievement of the institution's vision, mission, and strategic objectives. In conclusion, the academic information system plays a crucial role in strengthening educational administration management at STAI-PIQ West Sumatra. This study recommends continuous system development, enhancement of human resource competencies, and institutional commitment to technology-based management to optimize the effectiveness of academic information systems in Islamic higher education institutions.

Keywords: Technology information; system academic information; higher education management.

How To Cite: Hasnah, H., Izati, W., Abdi, H., Kurniawan, S., & Burhanuddin, H. (2024). Management Strategy of Educational Administration through Academic Information Systems. *Al-Ta'lim Journal*, 31(1). doi:<https://doi.org/10.15548/jt.v31i1.1094>

Article info: Submitted: 21st December 2023 | Revised: 30th May 2024 | Accepted: 31st July 2024

INTRODUCTION

Every organization, both in the public and private sectors, requires efficient management to ensure consistent performance in line with its established vision and mission. To effectively carry out these functions, organizations need an administrative system that is effective, adaptive, and capable of keeping pace with sustainable technological developments (Aprianto, 2021). Therefore, organizations are required to adopt technology in a timely and appropriate manner to optimally support the achievement of organizational objectives (Ningsih & Akhyar, 2024). Information refers to factual data that represent the condition of an organization or its specific units. The availability of accurate and relevant information plays a crucial role in designing work

processes and supporting informed and precise decision-making aligned with organizational goals.

The utilization of Information and Communication Technology (ICT) in administrative services within higher education institutions has become a necessity rather than merely a symbol of status or a management trend. Nevertheless, in practice, higher education institutions continue to face various challenges—both technical and non-technical—in integrating ICT into institutional management systems (Siregar & Marpaung, 2020). Improved governance, accountability, and public image of higher education institutions are believed to significantly enhance institutional performance and the quality of educational outputs. Such policies will have a substantial impact when accompanied by high-quality management services, excellent learning programs, adequate educational facilities and infrastructure, as well as competent human resources (Ritonga et al., 2020). Considering current conditions, the integration of ICT to support policies aimed at strengthening governance, accountability, and public trust in higher education institutions is highly relevant, particularly through the implementation of information systems in educational service management (Huda, 2020).

The primary focus of contemporary development efforts lies in empowering society toward the formation of an information-based community. This process requires a fundamental shift in societal mindsets, enabling individuals to manage and utilize received information efficiently, as this capability is a key factor in the creation of high-quality knowledge. To realize an information-literate society, an optimally functioning information system is required to manage various aspects of information management, including planning, processing, and evaluation. An information system is an integral component of a complex organizational structure, consisting of multiple interrelated subunits with distinct roles and functions within the higher education environment (Handayani et al., 2021). This system is designed to support and synchronize the activities of each subsystem within an institution in order to achieve predetermined organizational objectives (Rohmy et al., 2021). Therefore, a comprehensive understanding of information systems—including their managerial and processing aspects across various work units—is essential.

Information systems have now been widely implemented across various sectors, both public and private (Kesuma, 2021). According to Sinarwati et al. (2019), information systems can serve as effective solutions to organizational challenges by providing timely and relevant data and information. Technology plays a crucial role in information system management, particularly within open organizations, as it facilitates smooth and efficient information flow throughout the institution. Consequently, the implementation of technology must be carefully aligned with organizational characteristics to avoid conflicts or operational barriers (Nur Efendi & Muh Ibnu Sholeh, 2023). This discussion underscores the vital role of integrated information systems supported by technology in managing and monitoring data efficiently within an organization. The implementation of information systems, therefore, constitutes a critical consideration in organizational management, especially within higher education institutions.

Educational management in Indonesia is governed by Government Regulation of the Republic of Indonesia No. 57 of 2021 on National Education Standards, which establishes minimum requirements for planning, implementation, and supervision within educational institutions (Sutedi et al., 2021; Merliana & Putra, 2021). These standards aim to ensure that educational administration is carried out effectively and efficiently. Therefore,

an integrated information system is essential to optimally support educational management, enabling all managerial processes to operate properly and systematically.

The primary objective of educational management is to enhance the quality of educational institutions, particularly higher education institutions, which possess the authority to manage academic and administrative activities within their internal environment. Educational management encompasses various strategic actions designed to support the learning process and achieve institutional educational goals (Siregar & Marpaung, 2020). The Islamic College for the Development of Qur'anic Sciences (STAI-PIQ) West Sumatra, as one of the higher education institutions, remains committed to improving educational quality, among others, through the implementation of a managerial-based academic information system. STAI-PIQ West Sumatra demonstrates a strong dedication to excellence, professionalism, and religiosity in accordance with its institutional vision and mission. An Academic Information System is a computer-based technology designed to manage data efficiently within a higher education environment. This system is specifically developed to support leadership decision-making processes at the institutional level (Indrayani, 2011).

The integration of information systems across all internal activities of higher education institutions plays a vital role in supporting institutional effectiveness and sustainable development. Information systems encompass various applications, one of which is the academic information system that manages data related to class schedules, lecturers, students, and academic records (Hermawansyah, 2022). The implementation of information systems enables faster access to relevant information and more efficient data processing within the higher education environment (Setyanto et al., 2017). The information generated originates from the institution's internal system, which integrates daily transaction processing needs to support smooth operational activities, including managerial and strategic functions, as well as the preparation of reports required by relevant stakeholders.

The academic information system serves as a key instrument for efficient and strategic data management aimed at improving educational quality, particularly within the STAI-PIQ West Sumatra context. The development and effective implementation of this system require careful attention to four main elements: technology and infrastructure, system design, the quality of human resources, and organizational culture. Although higher education institutions may have implemented an academic information system, its utilization is often not yet optimal in several aspects. Therefore, this study seeks to provide a comprehensive analysis of the implementation of the academic information system at STAI-PIQ West Sumatra. This research adopts a descriptive qualitative approach to describe and examine how educational management is carried out through the academic information system (SIKAD) within the institution.

METHOD

This study applies a descriptive qualitative approach to obtain an in-depth understanding of the research topic. Observation is used as the primary method for collecting data related to the phenomena under investigation. This approach enables researchers to directly capture contextual information and to gain detailed insights into interactions and behaviors that occur in the field. To ensure systematic data documentation, structured field notes and observation checklists are employed.

In addition, this research involves the systematic collection and review of relevant documents related to the research topic, including official archives, reports, and other important materials that provide historical and contextual perspectives. A thorough document analysis is conducted to identify and trace the development of themes and significant patterns that emerge. Furthermore, a comprehensive literature review is carried out to situate the research findings within the existing body of knowledge.

This process demand search in-depth and assessment critical to journal scientific, books, and various source academic others. This step useful for identify gap in research that has been exist and provide contribution important in build runway theory as well as context research. Data collected through observation, study documents and studies literature analyzed with approach thematic analysis This covers data grouping, discovery themes main, and interpretation results in the relationship with question research. Qualitative methods This allows review comprehensive to issues complex, so that give greater understanding deep and thorough to object study. With combine various technique in methodology qualitative research This offers a robust and comprehensive approach in the process of data collection and analysis, ultimately produce sharp and deep understanding to topics discussed.

RESULTS AND DISCUSSION

Academic Information System

The findings indicate that the Academic Information System (SIKAD) at STAI-PIQ West Sumatra has been systematically integrated into core educational management processes, including planning, implementation, and evaluation. Based on document analysis of academic guidelines, schedules, and system records, SIKAD functions as a centralized platform for managing academic data related to students, lecturers, curricula, assessments, and financial administration. Observations reveal that academic planning activities, such as course scheduling and study plan preparation, are conducted through the system, enabling more organized and coordinated academic operations.

This finding is consistent with Merliana and Putra (2021), who emphasize that academic information systems play a strategic role in integrating institutional academic processes. However, unlike some previous studies that report partial system adoption, the implementation at STAI-PIQ demonstrates a more comprehensive integration across multiple academic units, indicating a higher level of institutional commitment to technology-based management.

With the advancement of technology, education has become more accessible, particularly in classroom learning. Educational institutions must utilize technology as a valuable resource to achieve academic goals. Human resources play a crucial role in this process, as they function as planners, operators, and developers of information technology. The quality and competence of human resources significantly influence the successful implementation of technology. In addition, technology must be regularly updated to meet current needs and ongoing developments. This includes updating software, hardware, and the competencies of operators or system managers. Finally, institutional priorities should emphasize the integration of management and technology. The combination of technology and effective management principles ensures the optimal use of technology in supporting academic objectives.

An academic information system is a combination of hardware and functional software designed to manage data related to students, lecturers, teaching activities, and

academic evaluation. The system is intended to support convenience and effectiveness in the decision-making process. Meesters and Gordijn (2015) state that the effectiveness of an information system is strongly influenced by the involvement of stakeholders, who play an important role in providing optimal services for lecturers and students. A well-developed academic information system produces accurate and high-quality information. Huda (2020) emphasizes that the success of an information system is largely determined by the quality of the information it generates, as such information directly influences system users and plays a critical role in ensuring accurate decision-making in various situations. Therefore, higher-quality information leads to more accurate decisions.

In an organizational context, system utilization refers to the intensity and frequency with which a system or computer network is used over a specific period of time. In higher education, the quality of academic information is closely related to the experiences and involvement of various stakeholders within the academic ecosystem.

Efficiency and Effectiveness of Academic Services

Empirical evidence from observations and administrative documents shows that SIAKAD has improved the efficiency and effectiveness of academic services. Students are able to access grades, schedules, attendance records, financial information, and academic announcements independently, while lecturers manage teaching plans and assessments through the system. Administrative staff reported reduced processing time and fewer errors in academic data management.

These results align with Setyanto et al. (2017) and Aswati et al. (2015), who found that academic information systems enhance service efficiency and reduce administrative burdens. However, this study extends previous findings by demonstrating that service efficiency at STAI-PIQ is not only technical but also managerial, as system-generated data are actively used to support institutional planning and monitoring. Students can also independently print required documents, which improves the efficiency of academic and financial staff performance and reduces the potential for errors in information delivery. The academic information system provides several key features, including:

First, Academic Management Features. This feature is accessible to the administrative office and study programs. It includes functions for data collection, class scheduling, assignment of academic advisors, new student admissions, student biodata management, and the administration of official correspondence at the study program level at STAI-PIQ West Sumatera. Second, Lecturers Features. This feature provides convenience for lecturers in managing teaching activities while allowing them to access assigned teaching schedules. Through this feature, lecturers can prepare study plans, organize class schedules, and design various learning activities to support the teaching and learning process.

Third, Student Features. The student facilities include various features that support academic activities, such as course registration (KRS), attendance tracking, assessment, academic calendars, curriculum structures, and the submission of applications for community service programs (KKN), internships (PKL), theses, and academic supervision. In addition, the system provides features that support the graduation process, including academic status tracking and student payment information. The academic information system at STAI-PIQ West Sumatra also includes a student biodata feature that comprehensively records students' personal and academic information.

Four, Financial Features. This feature provides access for the finance department to manage various functions within the academic information system. These functions include billing management, payment scheduling, determination of fee structures, management of student payment transactions, and monitoring of students' financial activities. In addition, the finance department has the authority to verify financial requirements related to the graduation registration process.

The Islamic College of Development of Qur'anic Sciences (STAI-PIQ) West Sumatra implements various approaches and strategies to enhance educational quality through the use of an academic information system. This system supports all stages of educational management, including planning, implementation, and evaluation, through integrated components. The integration of technology into managerial processes contributes to the creation of innovative and creative learning experiences. Overall, STAI-PIQ West Sumatra has successfully established an effective and efficient educational management system to support the teaching and learning process.

Stakeholder Involvement and Information Quality

The study reveals that the effectiveness of SIAKAD is strongly influenced by stakeholder involvement, particularly lecturers, students, and administrative staff. Observational data indicate that active user engagement contributes to accurate data input and timely system utilization. Document analysis further shows that system outputs, such as GPA reports and academic performance summaries, are used in decision-making processes at both program and institutional levels.

The Academic Information System plays a crucial role in improving the efficiency and effectiveness of services, particularly in academic administration, by providing various conveniences and benefits. Aswati et al. (2015) state that academic information systems offer significant advantages, such as resolving administrative issues in new student admissions, facilitating the implementation of academic activities, and supporting human resource management as a basis for policy formulation and strategic decision-making in higher education institutions. Furthermore, Winarso et al. (2020) demonstrate that academic information systems are effective in facilitating online new student registration, enabling prospective students to register anytime and anywhere. These findings confirm the important benefits of utilizing information technology in educational management.

This finding supports Meesters and Gordijn's (2015) argument that stakeholder participation is a critical determinant of information system effectiveness. Recent international studies further confirm that user engagement and information quality significantly influence the success of academic information systems and managerial decision-making in higher education institutions (Al-Haddad et al., 2023; Loureiro et al., 2024). In addition, empirical evidence shows that high-quality information systems enhance institutional performance by supporting data-driven decisions and improving administrative efficiency (Sturm et al., 2023). Within the context of Islamic higher education, this study contributes to the literature by highlighting the interaction between information quality and institutional culture, which plays an important role in sustaining the effective use of academic information systems.

Managerial and Educational Implications

From a theoretical perspective, the findings reinforce the view that academic information systems function not merely as technical tools but as strategic instruments in

educational management. Practically, the results imply that higher education institutions, particularly Islamic private colleges, should prioritize continuous system development, capacity building for human resources, and alignment between technology and institutional strategy. While the system at STAI-PIQ has been effectively implemented, observations also suggest the need for ongoing evaluation to address remaining limitations, such as system optimization and user training.

System information Academic (SIKAD) at the Islamic College of Development The Science of the Qur'an (STAI-PIQ) of West Sumatra includes stages management start from planning, implementation, to evaluation education. All stages This designed for support achievement vision, mission, goals, and strategies of the institution. At the planning stage, specific features are provided for lecturers to develop comprehensive semester learning plans. Meanwhile, administrative staff have access to arrange academic schedules as part of academic management, which are then distributed to the respective study programs. Student academic planning is carried out through the completion of the Study Plan Card (KRS), allowing students to select the courses they will take during the semester.

The implementation of learning activities is reflected in the student-accessible features that cover a total of 16 class sessions per semester. Students use the system to participate in mid-semester and final examinations, complete assignments, and monitor their academic progress. Lecturer involvement in the educational process is demonstrated through teaching activities such as delivering course materials, assigning tasks, and administering mid- and end-semester examinations in accordance with the semester learning plan. Meanwhile, the evaluation process is facilitated through features available to lecturers, enabling the assessment of student performance throughout the semester. In addition, academic management features support evaluation by generating summary reports of students' Grade Point Averages (GPA).

CONCLUSION

System information well-known academic with SIKAD STAI-PIQ West Sumatra providing service through features in management education in accordance with its users. Target expected ending in implementation management education in the system information academics at STAI-PIQ West Sumatra are achievement vision, mission, goals and strategies that have been set. SIKAD STAI-PIQ West Sumatra is system information academics that provide various customized services with need specific users. Features the covering feature registration eye lectures, tracking values, management scheduling and communication between students, lecturers, and staff administration. With integrate functions in this regard, the SIKAD STAI-PIQ West Sumatra aims to for expedite life academic. Target end implementation management education in system information academics at STAI-PIQ West Sumatra is achievement vision, mission, goals and strategies of the institution. System This developed for support objective strategic institutions, which include improvement achievements education, creation environment learning that supports, and ensures tasks administrative handled in a way efficient.

Islamic College of Development The aim of the Qur'an Science (STAI-PIQ) of West Sumatra is for create environment more academic organized and transparent with utilize the ability of SIKAD STAI-PIQ West Sumatra is expected system This will increase accuracy and reliability notes academic, reducing burden administrative, and supports the decision-making process decision data-based. Ultimately, the implementation of system

information academic This is part important from effort institution for fulfil mission education, upholding values institution.

REFERENCES

- Al-Haddad, S., Kotnour, T., & Jamous, R. (2023). Information systems success in higher education institutions: The role of user involvement and organizational support. *Education and Information Technologies*, 28(4), 4721–4743. <https://doi.org/10.1007/s10639-022-11256-9>.
- Edwin Kiky Aprianto, N. (2021). Peran Teknologi Informasi dan Komunikasi dalam Bisnis. *International Journal Administration, Business and Organization (IJABO)* |, 2(1).
- Handayani, E., Sari, P. P., & Islami, M. J. (2021). Pemanfaatan Teknologi Informasi dan Komunikasi (TIK) oleh UMKM pada Masa Pandemi COVID-19. *Jurnal Komunika: Jurnal Komunikasi, Media Dan Informatika*, 10(2), 113. <https://doi.org/10.31504/komunika.v10i2.4622>.
- Hermawansyah, H. (2022). Manajemen Pendidikan Berbasis Informasi Di Era Society 5.0. *Fitrah: Jurnal Studi Pendidikan*, 13(1), 46–57. <https://doi.org/10.47625/fitrah.v13i1.369>
- Huda, I. A. (2020). Perkembangan Teknologi Informasi Dan Komunikasi (TIK) Terhadap
- Indrayani, E. (2011). Pengelolaan Sistem Informasi Akademik Perguruan Tinggi Berbasis Teknologi Informasi Dan Komunikasi (TIK). *51 Jurnal Penelitian Pendidikan Vol.*, 12(1), 51–67.
- Kesuma, D. P. (2021). Penggunaan Metode System Usability Scale Untuk Mengukur Aspek Usability Pada Media Pembelajaran Daring di Universitas XYZ. *JATISI (Jurnal Teknik Informatika Dan Sistem Informasi)*, 8(3), 1615–1626. <https://doi.org/10.35957/jatisi.v8i3.1356s>
- . Kualitas Pembelajaran Di Sekolah Dasar. *Jurnal Pendidikan Dan Konseling (JPDK)*, 2(1), 121–125. <https://doi.org/10.31004/jpdk.v1i2.622>
- Loureiro, E., Gomes, B., Varajão, J., & Silva, C. (2024). Information systems project success: A systematic literature review and future research agenda. *Heliyon*, 10(23), e40619. <https://doi.org/10.1016/j.heliyon.2024.e40619>
- Merliana, N. P. E., & Putra, P. B. A. A. (2021). Sistem Informasi Akademik dalam pengelolaan pendidikan di Institut Agama Hindu Negeri Tampung Penyang Palangka Raya. *Satya Sastraharing: Jurnal Manajemen*, 47–56. <https://doi.org/10.33363/satya-sastraharing.v5i2.777>
- Ningsih, W., & Akhyar, Y. (2024). Empowering Students as Agents of Change in Sustainable Society 5. *Journal of Smart System (JSS)*, 3(1), 1–19.
- Nur Efendi, & Muh Ibnu Sholeh. (2023). Manajemen Pendidikan Dalam Meningkatkan Mutu Pembelajaran. *Academicus: Journal of Teaching and Learning*, 2(2), 68–85. <https://doi.org/10.59373/academicus.v2i2.25>

- Ritonga, M., Nazir, A., & Wahyuni, S. (2020). *Pengembangan Model Pembelajaran Bahasa Arab Berbasis Teknologi Informasi dan Komunikasi Dalam Dialektika Revolusi Industri 4.0*. Jakarta: Deeppublish.
- Rohmy, A. M., Suratman, T., & Nihayaty, A. I. (2021). UU ITE Dalam Perspektif Perkembangan Teknologi Informasi dan Komunikasi. *Dakwatuna: Jurnal Dakwah Dan Komunikasi Islam*, 7(2), 309. <https://doi.org/10.54471/dakwatuna.v7i2.1202>
- Setyanto, E., Rasyidah, N., & Sulhan, M. (2017). Aplikasi TIK dalam Manajemen Pendidikan Dasar Dan Menengah. *HIKMAH: Jurnal Pendidikan Islam*, 6(2), 298–317.
- Siregar, Z., & Marpaung, T. B. (2020). Pemanfaatan Teknologi Informasi dan Komunikasi (TIK) Dalam Pembelajaran di Sekolah. *BEST Journal (Biology Education, Sains and Technology)*, 3(1), 61–69. <https://doi.org/10.30743/best.v3i1.2437>.
- Sturm, T., Pumplun, L., Gerlach, J. P., Kowalczyk, M., & Buxmann, P. (2023). The role of information quality in managerial decision-making: Evidence from information systems research. *The Journal of Strategic Information Systems*, 32(4), 101790. <https://doi.org/10.1016/j.jsis.2023.101790>.