



IMPLEMENTATION OF ERMS IN ARCHIVE MANAGEMENT: A CASE STUDY OF SIKS AT GADJAH MADA UNIVERSITY

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Abstract

Archive management is crucial because it allows institutions to evaluate performance and predict potential future scenarios for making necessary changes. In today's digital era, archives are not only in paper form but also in digital and electronic formats. Handling paper and electronic archives requires different approaches. UGM Archives has an ERMS (Electronic Records and Management System) called SIKS (Sistem Informasi Kearsipan Statis) to manage electronic archives. This paper aims to understand the implementation of SIKS as an ERMS and to outline the strengths and weaknesses of SIKS as an ERMS, with the hope that it can serve as an evaluation tool for improving archival services at UGM Archives. Based on the author's analysis, several areas for development in optimizing SIKS were identified. These include the need for advanced search models, such as searches using boolean operators. Additionally, data synchronization is necessary, especially after server migrations, and there is a need to increase human resources, particularly in the IT field..

Keywords: Electronic Record Management System, Archive, Electronic Archive, SIKS

Abstrak

Pengelolaan arsip sangat penting untuk diperhatikan sebab dengan adanya arsip tersebut institusi dapat mengevaluasi kinerja dan memprediksi kemungkinan-kemungkinan yang akan terjadi di masa mendatang untuk melakukan perubahan. Pada era digital sekarang ini, arsip tidak hanya berupa kertas tetapi juga dalam format digital dan elektronik. Penanganan arsip dalam bentuk kertas dan elektronik berbeda. Arsip UGM memiliki ERMS (Electronic Records and Management System) yaitu sistem yang digunakan untuk mengelola arsip elektronik. Sistem tersebut diberi nama SIKS (Sistem Informasi Kearsipan Statis). Tulisan ini bertujuan untuk mengetahui penerapan SIKS sebagai ERMS, serta menguraikan kelebihan dan kekurangan SIKS sebagai ERMS dengan harapan dapat dijadikan bahan evaluasi di Arsip UGM untuk meningkatkan pelayanan kearsipan. Dari hasil analisis yang dilakukan oleh penulis beberapa temuan yang perlu dikembangkan dalam optimalisasi SIKS yaitu perlu dikembangkannya model pencarian tingkat lanjut misalnya pencarian dengan boolean operator. Selain itu, perlunya sinkronisasi data terutama setelah migrasi server, dan perlu ditambah sumber daya manusia khususnya SDM bidang IT.

Kata Kunci: Arsip Elektronik, Arsip Statis, ERMS, SIKS.

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INTRODUCTION

The management of university archives should be handled by a dedicated department to prevent confusion between archive collections and library collections. When archive management is not separated from library management, it can lead to a mixed system where archives and library collections are intermingled (Fathurrahman, 2018:215). This condition reduces their physical condition and diminishes their political and juridical value because they are considered to have lost their utility. Such management also risks damage and loss. Archives are produced almost constantly and have varied uses; some are used frequently, while others are used occasionally. Record are those used directly in the activities of the archive creator and stored for a certain period. In Indonesia, the term "Arsip Dinamis" is also known as "records." According to the Republic of Indonesia Law Number 43 of 2009 concerning Archives, record are used directly in national life planning, implementation, and administration.

Records come in various physical forms produced by organizations or individuals in their activities, stored permanently for future use. Advances in information and communication technology have significantly changed all aspects of human life, including archive management.

Nowadays, archives are also often in digital/electronic forms. There is a fundamental difference in managing paper/printed dynamic archives and electronic/digital dynamic archives. The Electronic Records and Document Management System (ERMS) is designed to manage electronic archives. Studying ERMS is essential to improve the quality of electronic archive management. The UGM Archive is a center for developing and providing archival information services for higher education institutions. University archives are archival institutions within the

organizational units of both public and private universities, performing archival functions and duties within the university environment. The main activity of the UGM Archive is to preserve the university's archives as sources of information and collective memory.

The UGM Archive has an ERMS known as SIKS (Sistem Informasi Kearsipan Statis). The purpose of SIKS is to enhance the effectiveness and efficiency of electronic archive management at UGM. The management of dynamic electronic archives should be done specifically, not only from an administrative perspective but also in terms of space, technical aspects, and the treatment of the archives themselves. This article will describe the implementation of SIKS as an ERMS at the UGM Archive with the goal of serving as an evaluation tool, so that SIKS can become an ideal ERMS.¹

RESEARCH METHODS

The data collection method in this article uses a qualitative approach, focusing on the implementation of the SIKS application as an ERMS at the UGM Archive. This research utilizes both primary and secondary data sources. Primary data is obtained through direct use of SIKS and interviews with archivists. Secondary data comes from various literature discussing ERMS, which is then used as a basis for evaluating the ERMS at the UGM Archive. Data analysis is conducted by synthesizing observations, interview results, and comparative analysis between theory and field conditions. To strengthen the analysis, the research findings are described descriptively and supported with images to clarify the analysis results.

¹ L Mahmudah, A. R., & Rahmi, "Urgensi Dan Integritas Arsip Dalam Konteks Kebangsaan Dan Kesadaran Sejarah.," *Lentera Pustaka: Jurnal Kajian Ilmu Perpustakaan, Informasi Dan Kearsipan*, 2016, 2(1), 1–8.

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LITERATURE REVIEW

Archives are a collection of documents systematically stored for the purpose of being quickly retrievable whenever needed” (The Liang Gie, 2000: 45). “In Indonesian, 'archives' (record) can be understood as: any written record, whether in the form of images or charts, containing information about a subject (main issue) or events created to aid memory” (Basir Barthos, 2000: 18). Archives are a collection of documents stored in an organized and planned manner due to their utility, allowing for quick retrieval when needed, according to Agus Sugiarto (2005: 5).

ERMS is a component of Business Information Systems (BIS) primarily designed to capture and manage digital archives. ERMS is a system specifically developed to handle the creation, use, maintenance, and disposal of digital records to provide evidence of business activities (Hendrawan & Ulum, 2017: 73). The implementation of ERMS offers advantages, such as maintaining electronic archives over time with the necessary protections for long-term preservation (Rustam, 2019: 1.13). Implementing ERMS not only modernizes archive management but also enhances efficiency, accessibility, and document security within an organization. By following these steps, higher education institutions can ensure their archives are well-managed and support both academic and non-academic activities optimally.

University archives are a program related to policies, human resources, archive collections, and building facilities to preserve and ensure that the documentary heritage of a higher education institution remains accessible (Setiawan & Hakim, 2018: 47). These documents continue to grow with the increase in both academic and non-academic

activities (Prabowo, 2020: 17). The documents are selected and managed systematically based on archival theory and management techniques (Maher, 1992: 16).

The presence of a University Archive creates a dedicated unit responsible for archival tasks, which helps preserve the collective memory of the university from loss. Additionally, university archives support the organization's vision and mission in developing research-based universities, ensuring that research outcomes can serve as valuable references (Mutmainnah et al., 2020: 5).

The Electronic Records and Management System (ERMS) plays a crucial role in archive management in the digital age. ERMS enhances efficiency by automating archival processes such as record-keeping, indexing, and document retrieval, reducing the time and effort needed for manual archive management. With ERMS, documents can be quickly and easily accessed by authorized users from various locations, supporting remote work and inter-departmental collaboration. Moreover, ERMS provides advanced security features, including role-based access control, data encryption, and audit trails, ensuring that only authorized users can access and modify archives. ERMS helps organizations comply with various regulations and standards for archive management, such as data protection laws and international standards (e.g., ISO 15489).

This includes appropriate document retention and archive lifecycle management. By reducing reliance on physical archives, ERMS helps save storage space and reduces costs associated with physical document storage. ERMS ensures documents are stored in formats that are not prone to damage or loss and can track changes made to documents, maintaining data integrity and accuracy. Automation and quick document access improve employee productivity by eliminating the need for extensive manual search and

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management. ERMS often includes disaster recovery solutions, ensuring documents can be quickly restored in emergencies like natural disasters or system failures. Some ERMS also offer analytical and reporting tools to help management understand archive usage, trends, and performance, which can inform better decision-making.

Better archive management through ERMS allows organizations to support their strategic and operational goals more effectively, such as aiding research universities by ensuring that research outcomes are well-documented and accessible. Implementing ERMS is a crucial step toward improving efficiency, security, and accessibility in archive management, enabling organizations to manage their archives in a way that supports their strategic and operational objectives.

RESULT AND DISCUSSION

Documents at UGM Archives continue to accumulate as a result of increasing academic and non-academic activities. These documents are systematically selected and managed based on archival theory and management techniques. The establishment of University Archives has created a dedicated unit responsible for archival tasks, which helps preserve the collective memory of the university. Additionally, university archives support the organization's vision and mission in developing a research university, ensuring that research outcomes serve as valuable references and that the archives are well-managed.²

ERMS is a component of Business Information Systems (BIS) with the primary goal of capturing and managing digital records. ERMS is a system specifically designed to handle the creation, use, maintenance, and disposal of digital records to provide

² M. Irawan, "Manajemen Arsip: Suatu Pendekatan Kearsipan. Persepsi Suara Badar I.," 2001.

evidence of business activities (Hendrawan & Ulum, 2017: 73).³ The implementation of records management with ERMS offers the advantage of serving as a method for preserving electronic records continuously with the necessary protections for long-term archival preservation. (Rustam, 2019: 1.13).⁴ Additional benefits of utilizing ERMS include:

- a. The preservation of contextual information and metadata, enabling identification at every link, supporting evidential value, and allowing continuous access.
- b. The management processes of records, such as classification, registration, search and retrieval, preservation, and disposal.
- c. Easy control over records, including access control and security.⁵

The utilization of the SIKS application as an ERMS at UGM Archives began in 2011, when UGM Archives developed SIKS (Static Archival Information System) as a primary alternative to the existing manual search tools. SIKS has since been developed for the management of static records. To date, it has not been decided whether to make it open or closed, as SIKS was specifically designed for UGM Archives' business processes and may not be suitable for use in other institutions. ⁶ SIKS was developed using the CodeIgniter framework and utilizes a PostgreSQL database. It runs on a Debian server with an Apache web server. The server is located in the Directorate of Information Resource Systems (DSSDI) with a colocation concept. ⁷

³ M. C. Hendrawan, M. R., & Ulum, "Pengantar Kearsipan Dari Isu Kebijakan Ke Manajemen UB Press," 2017.

⁴ M. Rustam, "Pengelolaan Arsip Elektronik. Universitas Terbuka.," 2019.

⁵ W. J. Maher, "The Management of College and University Archives. Scarecrow Press.," 1992, n.d.

⁶ W. A. Putranto, "Pengelolaan Arsip Di Era Digital: Mempertimbangkan Kembali Sudut Pandang Pengguna. Diplomatika," *Jurnal Kearsipan Terapan*, 1(1) (n.d.): 1–11.

⁷ Budi Santoso and Thoriq Tri Prabowo, "Implementasi Aplikasi SIKS Sebagai Electronic Records Management System (ERMS) Di Arsip UGM," *Khazanah Jurnal Pengembangan Kearsipan* 14, no. 1 (2021): 74–87.

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As of now, SIKS records a total collection of 31,160 textual archives, 13,810 photo archives, 423 image archives, 1,283 cassette archives, and 238 disk archives. SIKS is an ERMS specifically designed for static electronic archives, whereas inactive archives are managed by the UGM Archives Office through the Inactive Archival Information System (SIKI). Archivists hope that active archive management could utilize the Internal Electronic Mailing System (INEMS). Ideally, all three systems should be synergized as their lifecycles are interconnected, but currently, these systems are not integrated.⁸

ERMS Server Specifications

For the SIKS application at UGM Archives, the server used for installation is an HP Rack series with an Intel Xeon processor, 2GB of RAM, and a 500GB hard drive. The processor is considered quite suitable for a server or workstation. However, the available RAM and internal storage are relatively small, especially considering that data entered into the system is likely to increase over time. SIKS includes several features, such as:

a. User Data Feature

This feature requires users to input their data into SIKS. The items that must be filled in include: username (email), name, date of birth, address, occupation, and institution.

b. Archive Management Feature

This feature is provided for archivists to enter metadata for archives. Metadata to be entered includes: archive code, regrouping period, classification scheme, archive number, activity, description, retrieval location, retrieval time, recorder, type, size, condition, and storage location of the archive.

⁸ ["https://Siks.Arsip.Ugm.Ac.Id/"](https://Siks.Arsip.Ugm.Ac.Id/) n.d.

c. Archive Search (Retrieval) Feature

This feature provides users with a general search column. To refine search results, users can also use search filters based on archive types, including: sound recordings, photos, cartography, textual, and disks.

d. Archive Request List Feature

This feature has not been extensively explored as it only displays a static page without allowing users to perform activities within it. This feature provides site usage assistance to users in the form of frequently asked questions (FAQ). It includes information such as: an overview of SIKS, how to log in to SIKS, how to search for archives, and how to download archives. In addition to textual explanations, this help feature also provides visual guides to assist users.

SIKS was developed to align with existing archive management processes, thus not requiring changes to the current archival management procedures. If changes to the management process occur in the future, developing SIKS will be relatively easier. SIKS provided by UGM Archives allows both academic staff and the general public to access SIKS via the URL: [<http://arsip.ugm.ac.id/siks/>]. SIKS can be accessed through any device, including PCs, laptops, and smartphones. However, SIKS has some limitations, including: the lack of a mobile view, no user verification, slow adaptation to business process changes due to accessibility issues, limited resources affecting development speed, search functionality still based on standard queries which sometimes yields unsatisfactory results, and the absence of user verification processes.⁹

⁹Santoso and Prabowo, "Implementasi Aplikasi SIKS Sebagai Electronic Records Management System (ERMS) Di Arsip UGM."

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After analyzing the SIKS application, I believe several improvements are necessary, including: upgrading the server to facilitate easier and faster access; adding search features that go beyond basic queries; implementing user verification processes; developing advanced search models, such as searches with Boolean operators; ensuring data synchronization, especially after server migration; and increasing human resources, particularly in the field of information technology.¹⁰

CONCLUSION

The UGM Archives play a crucial role in storing and providing archival information, with responsibilities including collecting, preserving, and ensuring access to the documentary heritage of the higher education institution. The Archives utilize several automation systems to manage their records, such as INEMS for active records, SIKI for inactive records, and SIKS for static records. The SIKS system, accessible at <http://arsip.ugm.ac.id/siks>, is specifically designed for managing static archives. Users must register to use SIKS, which broadly adheres to the principles of Electronic Records Management Systems (ERMS) for handling digital archives.

Despite its implementation, SIKS faces several challenges that need to be addressed. Common issues include difficulty accessing the server, slow business process development due to limited resources, a simplistic search feature that sometimes yields unsatisfactory results, and the lack of user verification processes. These challenges highlight that while SIKS is operational, there are aspects that require improvement to enhance overall efficiency.

¹⁰ T. D Setiawan, D., & Hakim, "Manajemen Arsip Perguruan Tinggi: Sebuah Analisa SWOT," 2018.

To resolve these issues, several improvements are recommended for SIKS. These include upgrading the server to facilitate easier and faster access, adding advanced search features beyond simple queries, implementing user verification processes, developing advanced search models such as Boolean operators, and synchronizing data, especially following server migrations. Additionally, there is a need to boost human resources, particularly in information technology, to better support system development and maintenance.

Addressing these recommendations will help SIKS achieve greater efficiency and effectiveness in managing archival records. By implementing these changes, the system can better meet the needs of its users and ensure that archival processes are both streamlined and robust..

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