

AUDIT OF A WEB-BASED ELECTRONIC DOCUMENTS AND RECORD MANAGEMENT SYSTEM (WEDRMS): OVERSIGHT EFFORTS TO IMPROVE ADMINISTRATION IN HIGHER EDUCATIONAL INSTITUTIONS

Richatul Jannah¹,
Fitrarena Widhi Rizkyana²,
Risanda Alirastra Budiantoro³

^{1,2,3}Akuntansi, Universitas Negeri Semarang, Semarang

e-mail: richatuljannah@mail.unnes.ac.id, fitrarenarizkyana@mail.unnes.ac.id, risanda.abe@mail.unnes.ac.id

Abstract

An electronic records had important role in organizations including a university or higher educational institutions. It was important to stay abreast of best practices and new technologies to manage these records effectively. A Web-Based Electronic Documents and Records Management System (WEDRMS) was a web-based system that was expected to reach a wide range of system users. This system had functions to store, archive and retrieve electronic documents. The purpose of this research was to explain further an audit implication for Web-Based Electronic Documents and Record Management System (WEDRMS) as an effort to supervise administration of higher educational Institutions. This research used a descriptive research approach with observation and document analysis for the data collection process. With the existence of an audit, it can become an alternative to managing electronic documents in the higher education environment. This research provides perspective and urgency regarding the audit implication of web-based electronic documentation dan recording management.

Keywords: *A Web-Based Electronic Documents and Record Management System; EDRMS, Documents and Record Management, Audit System*

INTRODUCTION

Electronic archiving, or archiving and document management, is an integral part of any organization, especially a university or higher educational institutions. University is one of organizations that relies heavily on information technology in education. Universities are in an ever-changing environment, and as an organization they are constantly faced with uncertainty and risk. Universities must be able to analyze the associated risks so that any controls do not disrupt business processes. A web-based electronic document and records management system (WBEDRMS) is a tool for managing records that are well-preserved, easily searchable, and useful to the organization. Web-based Electronic Document and Records Management System "WBEDRMS" is a web-based electronic document management application built using the PHP programming language and MySQL database. Dynamic Records Management efficiently and systematically controls the creation, distribution, storage, use, maintenance and amortization of records so that archiving works optimally and as a liability/accountability material can be used in organizational management processes, litigation and legal proceedings. The administrative area responsible for ensuring that public protection can be supported. The web-based electronic document and record management system "WBEDRMS" is one of the solutions that makes archiving and other documentation easier, cheaper, more accurate, and faster.

A Web-Based Electronic Document and Records Management System or WBEDRMS) which is used by organizations, in this case Higher Education, has an advantage in terms of record management efficiency. Further studies reveal that the obstacles to implementing digital record management systems are legal requirements, high installation costs, system failures and cybercrimes (Obotu et al., 2018). In the last decades, the issue of trust has become a serious concern that it is necessary to extend valuable insights into digital records, especially to achieve in evidence. It is important to manage the potential value of discipline

in ensuring about trust in records (Huda, 2022). Implementing electronic documents and record management presents the following challenges are data transition, staff resistance, lack of staff training, and data protection. Regarding with obstacles, the system is hampered by factors such as costs, technical limitations, bad data, lack of organizational infrastructure, Poor communication Changes to tools and workflows (Zulkipli et al., 2022).

In addition, it is undeniable that efficiency and effectiveness will be difficult to achieve if there is no supervision or inspection or what is commonly known as an audit. The objectives and results of all audits should be shared internally to promote accountability in the progress made from one audit to the next. At the same time, include updates after modifications to the archive management program based on audit results. To ensure that relevant, reliable, authentic, complete and usable records are maintained, managed and controlled effectively at the best value to meet appropriate legal, operational and information needs (HM Treasury, 2011).

The need to describe the problems that arise in records management must be taken into consideration because it has arisen a lot along with the lack of procedures and policies to systematically control the effectiveness and efficiency of recorded information. For example, the issue of trust in digital archives needs to be of serious concern with extraordinary components to underlie in properly applying the records of transmitted information to aid decision processes (Huda, 2022). Defining the process is one of the main challenges in conducting an audit. Some common processes include checking random records, observing random employees and interviewing or surveying employees. Specific processes are sometimes defined by the organization's audit department. It is necessary to apply the process consistently from one audit to the next so that results can be compared accurately and progress can be measured over time.

LITERATURE REVIEW

One area that has experienced rapid growth and different perspectives from many developers in recent years is document management. This idea has gone beyond the few steps that any developer has made simple to access paper in seconds. It is impossible to overstate the importance of document management systems as a necessity in an organization's workplace environment (Guoren et al., 2004). The electronic document and record management system "EDRMS" is a system for electronically managing and maintaining records and documents (NHSX, 2021). EDRMS is a combination system between Electronic Document Management System (EDMS) and Electronic Record Management System (ERMS) which were previously quite popular in the 1990s. EDRMS is widely used by various companies, especially large companies that have lots of documents and archives. Currently, EDRMS can not only be used for digital archives, but also physical archives. Many EDRMS system development companies continue to optimize this system so that archive maintenance can help all people, both individuals and companies. In addition, the data migration process can also be done through EDRMS so that the risk of data loss can be avoided. With the existence of EDRMS, management of records and documents, both by governments, companies and individuals, can continue to be carried out optimally. Ease of accessing archives and documents is one of the advantages of using EDRMS. The use of the system is expected to make it easier for us to maintain archives and documents properly.

Since the passage of Law No. 43 of 2009 on Archiving, this law has had the following impacts: Universities, because this Ordinance is binding on all universities funded by this Ordinance Carrying out archiving work and income from the Indonesian National Budget (APBN) via archiving organization (Oktaviana, 2014). Problems with irregular inactive lists being filled when they are not active document management can work well and is supported by adequate infrastructure. One way to support the smooth management of inactive records is through documents center If the passive storage center of the archive is more efficient and archived problems are solved when chaotic passive storage can be centralized and controlled In addition, the management of inactive records is regular and not chaotic if the root of the archive causes chaotic it solved because the active archive must is a model that

is a unified classification of the archive of entity creators, availability and depletion of human resources in the field of archives/archivists The central file can be started so that when the file is moved to inactive records The center is the same classification code, the records are in order, they exist News about the transfer is a list of required archives and documents if it can be quickly and efficiently restored very effectively. To reach them the goals must be supported by all parties, the head of the unit, the archivists, the archive It is equally important to get support from the infrastructure and sufficient and adequate funding (Santosa, 2014).

EDRMS has now been transformed into web-based. A web-based document management system will be introduced to simplify communication. Storing and retrieving information, especially improving work efficiency Fragmented structure. Better communication leads to better results Time, cost and quality of work within the organization (Tzena Yuan Chin Wong and Hong Kong Sar, 2012). Provision of an effective ERM software application to manage academic records requires adequate search and navigation options. They are very important for selecting appropriate areas of interest and relevant areas of study such as spoken content management. The search helps to determine whether the interviewee meets the complex of criteria outlined by the university (Miah & Samsudin, 2017).

The results of the study state that with digital archiving, the archiving audit process is more optimal because digital archiving can be accessed more easily, data presentation is more complete and detailed, and letter search will be obtained more quickly so that in using this digital application schools can be assisted in conducting archiving audits (Sunarni et al., 2020). General purpose for the internal audit information management policy (HM Treasury, 2011) are professional care; b) The legal and other rights of staff or those affected by internal audit actions are protected; c) Records are relevant, complete and accurate and the information they contain is reliable and authentic; d) Information can be retrieved efficiently by those with legal access rights; e) for as long as information to support the necessary audit decisions and conclusions is held; f) Information is secure from unauthorized and accidental alteration or deletion, that access and disclosure is properly controlled and audit trails track use and alteration; g) Information is stored in a robust format that remains readable for as long as it is needed; h) There are consistent and documented retention and disposal procedures to include provisions for the permanent preservation of archival materials and the secure disposal of information at the end of its life; i) Staff are made aware of information handling and their responsibilities through learning or awareness and mentoring programs.

METHOD

Descriptive methods are methods of examining groups, objects, states, and systems of thought. The purpose of descriptive research is to produce systematic, fact-based and accurate descriptions, images, or explanations of the facts, features, and relationships among the phenomena under study. Descriptive studies can be characterized only as attempts to define, describe or identify what is (Harris, 1991). The descriptive method also investigates a phenomenon or factor and assesses the relationship between a factor and other factors. In this study, the data collection techniques used in this study were through library research or data obtained from other sources, such as book references, previous research thesis and online data search as well as documentation.

RESULTS AND DISCUSSIONS

The old model document filing method which is still in physical form is still not effective and efficient. It is less effective in terms of the expiration date of information storage which can be damaged after being stored for a long time and is less efficient because over time, physical documents need an increasingly large storage space, this makes it difficult to retrieve information when the document is an old document. With the development of today's technology, documents can be easily converted into digital form and are often also called electronic documents.

EDRMS can now be used for physical archives as well as digital archives. Many EDRMS system development companies continue to optimize this system so that archive

maintenance can help all people, both individuals and companies. In addition, the data migration process can also be done through EDRMS so that the risk of data loss can be avoided. With the existence of EDRMS, management of records and documents, both by governments, companies and individuals, can continue to be carried out optimally. Ease of accessing archives and documents is one of the advantages of using EDRMS. The use of the system is expected to make it easier for us to maintain archives and documents properly (HM Treasury, 2011).

In Higher Educational institutions, electronic documents are backup documents that are used as supporting physical documents during data validation and accreditation. From time to time there will be more and more electronic documents in Higher Educational institutions so that an electronic document management system or what is commonly called an electronic document and records management system (ERDMS) is needed. The object of this study is an audit of web-based EDRMS for Higher Educational institutions, the system has different user levels including lecturers, students and teaching staff. From the test results, the application can be used for managing college electronic documents, both in digital document storage, speeding up searches and making it easier to retrieve stored documents. Universities as Higher Educational Institutions are encouraged to conduct functional analysis. key functions, activities, and transactions to create policies to identify. An important set of records recorded and maintained in a system of record. Policies that provide a framework within which college records can be managed should be established. Once guidelines are established, this should also be ensured Have a consistent way to validate compliance and measure performance System audit by record keeping system. Catalog of all record series of Universities need to be established and conservation plans developed and implemented (Chinyemba & Ngulube, 2005).

Audit Implications

An audit is the process of collecting and examining evidence related to information in order to determine and report the level of conformance of the information with specified standards. The audit ends with a report that covers the scope of the audit and areas to consider. The report may include a table detailing the purpose of each recordkeeping procedure and the results of the review. If the process proceeds as specified, the organization does not need to take further action. However, the table may contain additional information such as whether the process is partially running and what action is required. For example, this can occur when an organization's employees follow procedures to properly manage records, but those procedures jeopardize the security of the records. Also, the organization's employees may follow some of organizations's record-keeping procedures, but not exactly as specified in the procedures. The table also includes follow-up dates. The organization's management team then reviews the report and makes any necessary changes. The reviewers then return to confirm that the issues raised during the review have been resolved.

In general, an audit of records management is a review of the procedures used in an organization to create and maintain records. Auditors review inventories or lists, then whether they are digital or physical, as well as record keeping. The list gives the auditor an overview of the volume and types of records maintained by an organization including the College. The auditor also reviews how the organization operates so that it can determine what is worth keeping and how to communicate this information and processes to management. The auditor then reviews how old the records or files are to determine whether they are appropriate for keeping or destroying. In either case, the auditor evaluates the policies that determine what records the organization retains, how long and how those records are disposed of. If the choice is to retain records, the auditor looks at their storage, either in a secure database, warehouse, or facility. If the Organization destroys records, the auditor reviews the disposal procedures, including how the Organization's business ensures the security of records during the disposal process. In addition, an auditor goes through a record-keeping process to evaluate organizational performance. Regularly reviewing and auditing electronic records is essential to ensure that they are kept accurate, relevant and

up-to-date. This helps identify problems with web-based electronic document and records management systems (WEDRMS), such as security vulnerabilities or storage limitations, and allow them to be addressed promptly.

To audit records, it begins with identifying the type and storage of records by reviewing archive retention policies and examining electronic records management systems. After identifying the records, review them to ensure they are complete, accurate and up to date. This can be done by examining the metadata associated with each record, such as creation date and author, to ensure correctness. Next, assess the security of the record to ensure data security by reviewing access control settings and checking for any security vulnerabilities. Finally, assess record compliance to ensure that the record meets regulatory requirements. This can be done by reviewing policies and procedures to ensure they are up-to-date and comply with applicable regulations. By regularly reviewing and auditing the Organization's electronic records, the organization can properly manage records while complying with regulatory requirements. This can help reduce litigation and financial risk and ensure that electronic records continue to support an organization's decision-making, collaboration, and compliance needs.

Figure 1 Below are audit steps as an effort to improve administrative management of records. Audit steps are used as a guide to carry out the audit strategy. The steps consist of step 1 understanding of systematic record management, step 2 control tests, step 3 substantive tests, step 4 evaluation, and step 5 quality assessment and/or conclusion.

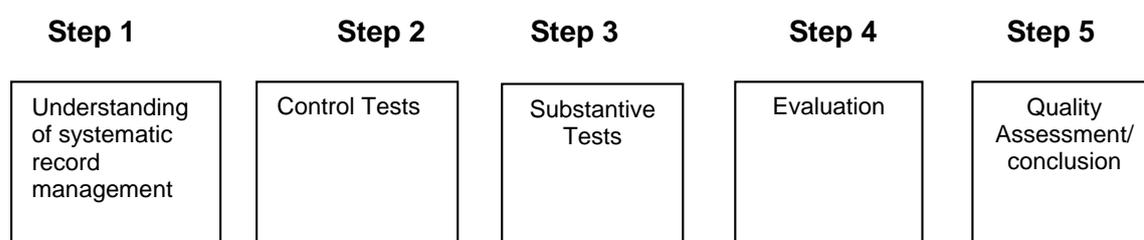


Figure 1. Audit Steps in General
Source: Researcher's Developed (2023)

Step 1 Understanding of systematic record management

Like a general audit, an understanding of record management of an object under study is the initial stage for determining the next steps and strategies. Identification and documentation is mandatory. This can be done by carrying out surveys or field observations so that audits can be more objective and accurate.

Step 2 Controls Tests

One form of information technology control is general control. General management includes computerized data processing environments and activities. In fact, problems often arise regarding the data security aspect associated with university information technology. Examples include theft of personal data, lack of encryption systems for transmission of sensitive data, and hijacking of authentication related data access. One common form of control is that related to data security. Data security activities include log data use, file protection, data access restrictions, data backup and recovery, and physical restrictions and safeguards (Flood, 2018).

Step 3 Substantive Tests

The substance test is a test that is carried out to find out "content" in more depth. In this test there are two types that can be run: significant alias traced in more depth; or limited (Flood, 2018).

Step 3 Evaluation

After conducting substantive tests, the IT audit can carry out an evaluation based on the findings. At this stage it is re-checked whether the organization's performance is effective or not. If it is effective, it means that it meets the requirements to proceed to the next stage. But if it is not effective, do another substantive test.

Step 4 Quality Assessment/conclusion

In this last step it will be seen whether the quality is guaranteed or not. It is clear that an IT audit is not an action that can be taken carelessly and instantly. The accuracy of the auditor is the tip of the spear. Apart from that, of course, these goals and steps must be carried out consistently.

Figure 2 below are Audit Scheme of A Web-Based Electronic Documents and Record (part of substantive tests). Audit scheme can be applied in Higher Educational Institutions to conduct documents and record management.

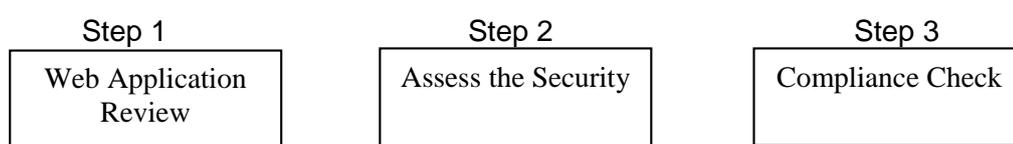


Figure 2. Internal Audit Scheme of A *Web-Based Electronic Documents and Record Management System (WEDRMS)* can be applied in Higher Educational Institutions
Source: Researcher's Developed (2023)

Step 1 Web Application Review

The first step is to review the web application from a high level. By understanding the components, Organizations can create a plan to address all potential security vulnerabilities, performance bottlenecks, and other issues that can arise from temporarily neglected applications.

Step 2 Assess the Security

Web applications face a variety of security risks and auditor should make a clear checklist of potential problems.

Step 3 Compliance Check

The next step is to run a compatibility check to see what might. For example, the organization has a PHP web application that is no longer maintainable and has some known security vulnerabilities.

CONCLUSION AND SUGGESTION

In conclusion, electronic records management is essential for any organization to ensure security, compliance and efficiency. Organizations can effectively manage their electronic records by establishing a records policy, implementing an electronic records management system, reviewing and auditing records regularly, and staff training. Managing electronic records can be a seamless process with the right tools and strategies. Therefore, it is critical to prioritize electronic records management and invest in the necessary resources to benefit from increased productivity and collaboration, as well as better decision making. As electronic records continue to play an increasingly important role in organizations, it is important to stay abreast of best practices and new technologies to manage these records effectively.

The need to describe the problems that arise in records management must be taken into consideration because it has arisen a lot along with the lack of procedures and policies to systematically control the effectiveness and efficiency of recorded information. For example, the issue of trust in digital archives needs to be of serious concern with exceptional

components to underpin the properly applied records of transmitted information to aid decision processes. Defining the process is one of the main challenges in conducting an audit. The limitation of this research is that the audit focuses on monitoring and examining the management of web-based electronic records and documents in Higher Educational Institutions. Future research is expected to be able to conduct quantitative research on document and record management audits in various industry sector.

BIBLIOGRAPHY

- Chinyemba, A., & Ngulube, P. (2005). Managing records at higher education institutions: A case study of the University of KwaZulu-Natal, Pietermaritzburg Campus. *SA Journal of Information Management*, 7(1). <https://doi.org/10.4102/sajim.v7i1.250>
- Flood, J. M. (2018). AU-C 330 Performing Audit Procedures in Response to Assessed Risks and Evaluating the Audit Evidence Obtained. *Wiley Practitioner's Guide to GAAS 2018*, 121–150. <https://doi.org/10.1002/9781119396536.ch12>
- Guoren, W., Wang, B., Han, D., & Baiyou Qiao. (2004). Design and Implementation of a Semantic Document Management System. *Information Technology Journal*, 4(1), 21–31. <https://doi.org/10.3923/itj.2005.21.31>
- Harris, C. M. (1991). Descriptive research. *Family Practice*, 8(1), 92. <https://doi.org/10.1093/fampra/8.1.92>
- HM Treasury. (2011). *Internal Audit Records Management*. June, 1–30. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207215/Internal_Audit_Records_Management.pdf
- Huda, M. (2022). Empowering professional and ethical balance in digital record management. *Organizational Cybersecurity Journal: Practice, Process and People*, 2(1), 60–73. <https://doi.org/10.1108/ocj-06-2021-0016>
- Miah, S. J., & Samsudin, A. Z. H. (2017). EDRMS for academic records management: A design study in a Malaysian university. *Education and Information Technologies*, 22(4), 1895–1910. <https://doi.org/10.1007/s10639-016-9525-6>
- NHSX. (2021). *Records Management Code of Practice 2021*. August, 60. https://transform.england.nhs.uk/media/documents/NHSX_Records_Management_CoP_V7.pdf
- Obotu, A. S., Uganneya Solomon, A., & Ogezi, I. C. (2018). Evaluative study of digital record management system in the Hospitals in Minna Metropolis. (A case study of General Hospital Minna, Niger State, Nigeria). *Library Philosophy and Practice*, 2018.
- Oktaviana, D. (2014). *Manajemen Arsip Lembaga Kearsipan Perguruan Tinggi (Studi Kuantitatif Deskriptif pada Bidang Kearsipan Universitas Airlangga)* Dina Oktaviana (071016009). 43, 1–19. <http://www.journal.unair.ac.id/filerPDF/ln22903e8412full.pdf>
- Santosa, H. (2014). Manajemen Arsip Inaktif sebagai Solusi Permasalahan Arsip Inaktif Tidak Teratur. *Khazanah: Jurnal Pengembangan Kearsipan*, 7, 19–33. <http://arsip.ugm.ac.id/2014/08/18/manajemen-arsip-inaktif-sebagai-solusi-permasalahan-arsip-inaktif-tidak-teratur/>

Sunarni, Adha, M. A., Kusvitaningrum, A. B., Agustina, D. N., Andriani, D., Pratiwi, F. D., & Safianti, R. (2020). Pengarsipan Digital Sebagai Wujud Optimalisasi Manajemen Audit Persuratan di Sekolah Digital Filing as a Form of Optimization of Educational Correspondence Audit Management at School. *Jurnal Manajemen Pendidikan: Jurnal Ilmiah Administrasi, Manajemen Dan Kepemimpinan Pendidikan*, 2(2), 159–167.

Tzena Yuan Chin Wong and Hong Kong Sar. (2012). *Web-based Document Management Systems in the Construction Industry* *Web-based Document Management Systems in the Construction Industry*. May, 6–10.

Zulkipli, F. N., Hussin, N., Yatin, S. F. M., & Ismail, A. (2022). *Review: Challenges and Obstacles of Trusted Elements for Mobile Health Records Management*. September, 47. <https://doi.org/10.3390/proceedings2022082047>