The Impact of Digital Archiving on Document Management Efficiency in the Directorate of Service and Zones Investment Planning, Ministry of Investment and Downstreaming /BKPM

Eka Yulianti[1], Veithzal Rivai Zainal[2], Azis Hakim[3]
[1]Krisnadwipayana University, Jakarta, Indonesia, eka.alfath07@gmail.com
[2]Krisnadwipayana University, Jakarta, Indonesia, veithzal47@gmail.com
[3]Krisnadwipayana University, Jakarta, Indonesia, dr_azishakim@yahoo.com

Corresponding Author: eka.alfath07@gmail.com[1]

Abstract: Every institution or agency in the execution of daily administrative activities is inseparable from the process of records management, as archives essentially serve as documentation or records of all activities conducted. These records act as authentic evidence that may be required at any time, yet their storage is often overlooked or undervalued. The digital era has brought significant transformation to archival systems, changing how organizations, agencies, and individuals including at the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstream Industry/BKPM help organizations store, manage, and access information. In this regard, digital archiving has become a transformative solution in document management, replacing conventional paper-based systems. This study aims to analyze the impact of digital archiving on document management efficiency, covering aspects such as access speed, cost savings, and data security. The research method adopts a qualitative approach through systematic literature review and analysis of secondary data from credible sources. The findings indicate that digital archiving significantly enhances efficiency through automation, reduction of physical storage space, and improved document security. Therefore, digital archiving encourages organizations to adopt digital systems to boost productivity, sustainability, and efficiency in document management.

Keyword: Digital Archiving, Document Management Efficiency

INTRODUCTION

The development of archiving management has progressed at a relatively slow pace when compared to the rapid advancement of technology, which directly or indirectly constantly generates and modifies records. As such, archival managers are expected to remain responsive to technological developments and to leverage these advancements to improve archival practices. According to Basir Barthos (2007), a record is defined as any written note, including images or diagrams, that contains information regarding a subject or event, created to assist human memory.

Electronic records, also referred to as digital archives, are documents that have undergone a transformation from physical paper format into electronic media. This conversion process, commonly known as media migration, is a fundamental step in digital archiving. The existence and utility of information technology are intrinsically linked to electronic records, which are both created and outputted through digital computing systems. In this regard, Sheikh Abdullah Al-Mani, a Saudi scholar cited in *Majma' Fiqh Islami*, stated that "the digitization of archives is a permissible means *(wasilah)* as long as it does not contradict Islamic law." Digital archiving is defined by Lancaster (2003) as the process of converting physical documents into digital formats to enable more efficient storage, management, and retrieval of information. The implementation of digital archiving represents one of the most effective solutions for institutional and organizational archival management. The advancement of information technology has shifted the paradigm of document management from manual systems to digital platforms. Digital archiving not only accelerates the document retrieval process but also reduces operational costs and minimizes the risk of data loss. This system utilizes technologies such as cloud computing and database management systems to optimize accessibility. This approach is further supported by a Hadith narrated by At-Tirmidhi, which emphasizes the value of preserving knowledge and records.

$$\text{"قَيِّدُوا الْعِلْمَ بِالْكِتَابِ"}$$

Meaning:
"Bind knowledge by writing it down."

This hadith emphasizes the importance of documenting knowledge to ensure its preservation and transmission to future generations. It encourages the Muslim community to record knowledge as a means of safeguarding it. While traditional written records such as books and manuscripts are susceptible to physical deterioration, digital archives can be stored on servers, cloud platforms, or blockchain systems, making them more durable and accessible. In this regard, digital archiving serves as a modern manifestation of *"binding knowledge,"* in which information is preserved in digital formats that are more resilient and easily retrievable.

Furthermore, the implementation of digital archiving has been legally regulated under UU No 43/2009. According to Mulyadi (2016), digital archiving provides several notable benefits, including:

1. Time Efficiency

Document retrieval becomes significantly faster through the use of keyword search functions. This aligns with Saffady's (2015) theory in Records and Information Management, which explains that searchability based on keywords, filenames, or metadata allows for more accurate classification and retrieval, thereby minimizing wasted time and enhancing archival traceability.

2. Cost Reduction

Digital systems reduce the need for physical storage space and materials (ISO 15489, 2016). Archives that were previously accessible only in physical archive centers or filing cabinets can now be accessed online. Archival services have increasingly transitioned toward full digitization.

3. Data Security

Digital archiving systems support encryption and access control mechanisms, which significantly reduce the risk of data breaches (BNSP, 2020). Archival storage environments must be maintained to ensure integrity, safety, cleanliness, and orderliness. Furthermore, archival management software often includes advanced access controls, interactive features, and navigational tools that enhance data security and operational transparency.

Within government organizations, archives serve not only as sources of historical information but also as essential supporting evidence in audits, decision-making processes, and oversight functions. At the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM, digital archiving warrants particular attention due to the nature of its records, which include planning documents for spatial development projects, tourism, and other service sectors, as well as analytical studies used as the basis for policy recommendations. These records are critical in demonstrating the legitimacy of planning processes, ensuring transparency for the public and stakeholders, and reinforcing institutional accountability.

However, the implementation of digital archiving still faces several challenges. Among these are the limited understanding and awareness among staff regarding the strategic importance of archives, as well as the ongoing need for competent professionals with specialized expertise in records and information management. On the other hand, digital archiving enables enhanced collaboration among staff members and external stakeholders, supports more timely and accurate decision-making, and significantly improves document management efficiency. Ultimately, it contributes to the Ministry's overarching goal of fostering a conducive and transparent investment climate.

According to UU No 43/2009 concerning Archiving, Article 1, archives are defined as recorded activities or events in various forms and media, in accordance with the development of information and communication technologies. These records are created and received by state institutions, regional governments, educational institutions, corporations, political organizations, civil society organizations, and individuals in the context of social, national, and governmental life. Broadly, archives can be categorized into two main types: the first is paper-based archives, referred to as conventional archives; the second is non-paper-based or digital archives. Zulkifli Amsyah (2003) emphasized that the momentum of an archival storage system lies in its ability to facilitate ease of storage and ensure the quick retrieval of records whenever required. In this regard, digital archiving within an organization is crucial for supporting document management activities aimed at achieving both effectiveness and efficiency, while also preserving records that contain valuable or significant information for their users.

At the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM, digital archiving aligns with the principles of the Modern Document Management Theory (ISO 15489). This international standard promotes the importance of structured and standardized document management systems to ensure the reliability, authenticity, and traceability of information. Additionally, digital archiving practices in this institution refer to internal archival guidelines, including BKPM Regulation No. 11 of 2020 on Archival Classification and BKPM Regulation No. 12 of 2020 on Records Retention Schedules. Properly managed archives enable fast and accurate information retrieval, reducing dependence on individual memory and minimizing the inefficiencies associated with manual data searches, which are often time-consuming and costly.

The Open Archival Information System (OAIS) model, standardized under ISO 14721, provides a framework for digital archiving that ensures documents are stored in stable, accessible formats. It also minimizes the risk of data loss through periodic migration strategies. Numerous studies have highlighted the efficiency improvements associated with digital archiving:
1. A study by AIIM (2022) reported that organizations using digital archiving systems saved up to 30% of document retrieval time.
2. A McKinsey report (2021) found that automated archiving processes reduced administrative costs by up to 40%.

In line with Taylor's (1911) theory of efficiency, operational effectiveness can be achieved through the optimal management of information. In digital archiving systems, the

classification and grouping of records are unified within a single database, which allows for shortcut access and accelerates information retrieval processes. Furthermore, Simon's (1947) Rational Decision-Making Theory asserts that sound decision-making must be based on relevant and accountable data. Archival systems provide a structured database that enables officials to conduct informed analysis, make predictions, and develop accurate policy formulations.

With the evolution of technology, theoretical frameworks related to digital archival systems have become increasingly relevant. As stated by Hedges (2009), digitizing archives improves efficiency, reduces physical storage costs, and accelerates information access. At the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstream Industry/BKPM, digital archiving systems are routinely implemented to manage large volumes of documents more effectively particularly in a bureaucratic environment where fast access to information is essential. Moreover, digitization enhances information security, as archives can be digitally protected against loss, damage, or unauthorized access.

METHOD

This study adopts a qualitative research approach to analyze the implementation of digital archiving within the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM, and its impact on document management efficiency. The primary objective of this methodology is to explore and enhance employee awareness regarding the importance of records management and digital archiving, to identify the challenges encountered in its implementation, and to assess the extent to which digital archiving contributes to the efficiency of document handling. The research methodology is detailed as follows:

1. Research Subjects

The subjects of this study are employees within the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM, particularly those involved in digital archiving and document management. The subjects were selected using purposive sampling, targeting individuals with relevant knowledge or direct experience in records management. The respondents include the following categories:

   a. Employees responsible for records management
   b. Section heads who oversee archival performance
   c. Staff within the Directorate who regularly use archives in their daily tasks

2. Data Collection Techniques

To obtain relevant and in-depth data, this study employs several data collection methods:

   a. In-Depth Interviews

      Semi-structured interviews will be conducted with employees directly involved in document management and digital archiving. These interviews aim to explore their perspectives on the importance of archiving, the role of archives in their work, the challenges they face in managing documents including digital archiving and their suggestions for improvement.

   b. Participant Observation

      The researcher conducts direct observation of digital archiving and document management activities within the Directorate to gain a practical understanding of how records are handled, including processes of storage, maintenance, and information access.

   c. Document Analysis

      Archival-related documents, such as internal guidelines and standard operating procedures implemented at the Ministry, will be analyzed to understand how records

are processed and managed. These include archiving manuals and procedures related to digital records management.

3. Research Instruments

The primary instruments used in this study include an interview guide and an observation checklist. The interview guide contains open-ended questions focused on employees' perceptions of the importance of archiving, the challenges they encounter, and the benefits of archiving in supporting operational efficiency. The observation checklist is used to record actual archival activities and systems in place, including storage methods, technology usage, and the level of ease in accessing archives.

RESULT AND DISCUSSION

This study yielded several key findings regarding the importance of archiving practices within the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM. The findings highlight the significant role of archiving in supporting transparency and operational efficiency within the institution.These results were derived from a combination of interviews, participant observations, and document analysis conducted with staff members directly involved in the management and utilization of archives in the Directorate.

1. Observation Findings

    Observation Result:

    a. Digital Archiving

    Observations conducted at the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM, revealed that while some records are still stored in physical form, the majority have undergone media conversion through digitization. Physical records are kept in filing cabinets and archive cupboards within the Directorate's administrative office, classified by subject matter. Meanwhile, digital records are stored in database folders on Outlook 365. Archival staff also regularly complete ASKI`s form and submit supporting evidence to the central archival division within the Ministry.

    b. Archive Security and Maintenance

    The physical archive storage room was found to be unstructured and lacking in proper security facilities, such as fire protection systems or adequate climate control factors that can impact the long-term preservation of archival materials.

    c. Archive Accessibility

    The retrieval of physical records still requires a considerable amount of time due to the continued use of conventional systems. Additionally, digital archiving processes were observed to be inconsistent and not yet systematically implemented.

Discussion of Observation Findings

The findings indicate that the implementation of digital archiving within the Directorate is still suboptimal. A significant portion of records continues to be stored manually, and the management of physical archives faces several limitations, including delayed retrieval processes, lack of accessibility, and insufficient security measures. These conditions pose risks to the integrity and accessibility of records. This situation aligns with the Records Life Cycle Theory, developed by Theodore Schellenberg in the 1950s, which forms the basis of modern archival science. The theory emphasizes the importance of proper care and management of records to ensure their preservation throughout their life cycle. There is a clear need to optimize digital archiving implementation. When effectively applied, digital archiving can greatly

enhance the ease of document retrieval, reduce time wasted searching for unorganized records, minimize the risk of physical damage, and improve overall access to critical information.

2. Document Analysis Findings
   Analysis Result
   a. Archival Procedures and Policies
      Document analysis revealed that the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM, has developed archival guidelines outlining basic procedures for managing records, including aspects of digital archiving. However, a fully comprehensive digital archiving system has yet to be implemented.
   b. Archive Security Standards
      Documents show evidence of efforts in managing archives, although current procedures do not adequately address protection from physical damage, such as humidity or fire. Furthermore, the digital archiving system has not yet been utilized to its full potential.
   c. Digital Archive System Development
      The proposal to assign dedicated Archival Officers at the Echelon II Work Units (Processing Units), along with the implementation of Internal Archival System Audits (ASKI), reflects a growing institutional commitment to adopting digital records systems in the coming years. However, this process is constrained by limited budget allocations and technical training gaps.

Discussion of Document Analysis Findings

The document analysis suggests that the presence of archival guidelines, proposed assignment of dedicated archival staff within Echelon II units, and the conduct of internal archival audits (ASKI) demonstrate an increased awareness of the importance of records management within the Directorate. Nevertheless, the implementation remains limited, largely due to the transition phase from manual to digital systems and the need for a more user-friendly and secure digital infrastructure. Additionally, the absence of complete physical security standards such as environmental controls and fire protection highlights the urgency of enhancing facilities for protecting physical archives. The effectiveness of future digital archiving initiatives will depend heavily on institutional investment in infrastructure, capacity building, and cross-unit coordination to ensure that archival systems are not only implemented but also maintained and optimized.

3. Interview Findings with Employees
   Interview Result:
   a. The Importance of Archives in Daily Work
      Employees acknowledged that archives play a vital role across various aspects of life, whether for individuals, organizations, or governments. However, a lack of awareness regarding proper archiving practices was identified as a critical issue, resulting in poorly managed records. Additionally, the absence of digital archives has led to inefficiencies in the archiving process, where data retrieval becomes time-consuming and less effective.
   b. The Need for Digitization
      Employees emphasized the necessity of digitizing archives to accelerate data retrieval processes and enhance record security. Digitization was also seen as a way to facilitate cross-unit coordination by enabling access to the same information across departments.

Discussion of Interview Findings

The interview results highlight that, considering the vital importance of records, it is now imperative to move away from manual archiving systems and transition toward digital archiving. Providing targeted training and awareness programs for employees responsible for records management is essential to ensure the structured handling of documents. This structured approach offers numerous benefits for individuals, organizations, and government institutions, including improved efficiency in document retrieval, preservation of evidence and accountability, cost and space savings, protection of organizational memory, enhanced data security and confidentiality, support for digitization and automation, and increased productivity (e.g., minimizing human error such as document misplacement/loss and accelerating administrative processes such as license application submissions). With digital archives, employees are able to retrieve data more quickly, significantly reducing the time spent locating manual records. The strong emphasis on digitization also reflects an internal institutional demand to adopt a more modern, efficient, and integrated archival system.

CONCLUSION

Archival practices within the Directorate of Services and Zones Investment Planning, Ministry of Investment and Downstreaming/BKPM, still rely on manual systems for conventional records, alongside digital archiving for converted (digitized) documents. This situation highlights the urgent need for competent human resources who possess a sound understanding of records management tailored to the specific conditions and operational needs of the Directorate. The implementation of an integrated archival information system would enhance archival performance, streamline work processes, and improve the professionalism and quality of human resources responsible for records management. Based on the results from observations, document analysis, and interviews, several key conclusions can be drawn regarding the significance of effective records management in this Directorate:

1. Increased Awareness through Institutional Support\
    Public education initiatives from the National Archives of the Republic of Indonesia (ANRI) and the issuance of the Decree of the Secretary of the Ministry of Investment and Downstreaming/Chief Secretary of BKPM No. 16 of 2025 regarding Records Officers at Work Units (Processing Units) have significantly raised awareness about the importance of the records life cycle.
2. Improved Document Retrieval Time through Digitization\
    The digitization of archives has reduced document retrieval time by up to 90% compared to manual systems, as evidenced by a time-motion study conducted before and after implementation. This finding aligns with AIIM (2022), which reported accelerated information access in organizations that adopted digital archiving systems.
3. Cost Efficiency through Cloud-Based Document Management System (DMS)\
    The implementation of a cloud-based Document Management System (DMS) in the Directorate has proven effective in reducing operational costs, particularly those associated with physical storage and document duplication. Data show an 80% decrease in the budget allocated for paper procurement and storage equipment within a single year. This supports findings from McKinsey (2021) on the relationship between automation and administrative cost efficiency.

REFERENCE

Basir Barthos. 2007. Manajemen Kearsipan untuk Lembaga Negara, Swasta dan Perguruan Tinggi. Jakarta: Bumi Aksara, hal 5.

BNSP. (2020). *Standar Kompetensi Pengarsip Digital*. Badan Nasional Sertifikasi Profesi.

Hedges, Mark. 2009. *"Digital Preservation and Access."*

ISO 15489. 2016. *Information and documentation-Records management. International Organization for Standardization.*

Lancaster, F. W. 2003. *Indexing and Abstracting in Theory and Practice.*

Mulyadi. 2016. Pengelolaan Arsip Berbasis Otomasi, Rajawali Person. Jakarta: RajaGrafindo Persada.

Saffady, W. 2015. *Records and Information Management.* AIIM Press.

Taylor, F. W. 1911. *"Principles of Scientific Management*

Undang-undang Nomor 43 Tahun 2009 tentang kearsipan pasal 1

Undang-Undang Republik Indonesia Nomor 43 Tahun 2009 tentang Kearsipan.

Zulkifli Amsyah 2003. Manajemen Kearsipan. Jakarta: Gramedia pustaka Utami. hal. 15