

A study of the archival system: Enhancing archive management

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Abstract - This study investigates the archival management system focusing on improving its effectiveness and efficiency. The primary objectives are to evaluate the current archival practices, identify challenges and gaps, propose improvements, and enhance the overall archival management system. The research employs a qualitative methodology, incorporating interviews, observations, and document analysis to gather comprehensive data on the existing archival practices and issues. The analysis reveals several critical problems in the archival management system including inadequate human resources, insufficient storage facilities, lack of technological integration, poor maintenance practices, and security concerns. These issues contribute to inefficiencies in managing dynamic and static archives, affecting the accessibility and preservation of important records. Based on the findings, the study proposes several recommendations to address these challenges. These include the adoption of modern technology for digital archiving, the improvement of storage facilities to accommodate the growing volume of archives, enhanced maintenance practices to prevent damage, and the implementation of robust security measures to protect valuable records. The study concludes that by addressing these issues and implementing the proposed improvements, can significantly enhance the efficiency and effectiveness of its archival management system. This will lead to better preservation, accessibility, and security of archival records, ultimately supporting the institution's administrative functions and operational goals.

Keywords: archival management, archive system, digital archiving, storage facilities, maintenance practices

1. Introduction

Archives are written records that provide information about events and organizational activities. These records can take various forms, including correspondence, printed materials, cards, sheets, and notebooks containing correspondences, government regulations, and other documents created and received by organizations, whether governmental or private, large or small. Archives can be defined as records of activities or events in various forms and media, adapted to advancements in information and communication technology, produced and received by state institutions, local governments, educational institutions, businesses, political organizations, community organizations, and individuals as part of social, national, and state life.

Archives are classified based on their function and use into two categories: dynamic archives and static archives. Dynamic archives are those used directly by the creator and stored for a specific period. In contrast, static archives are those created by the archive's creator that hold historical value, have surpassed their retention period, and are permanently kept after being verified either directly or indirectly. Dynamic archives include active archives, inactive archives, and vital archives. Active archives are those frequently used and continuously accessed. Dynamic active archives are directly and continually used in the execution of tasks.

As the volume of archives created and received by offices increases, the need for effective archive management, known as archival systems, becomes crucial. Poor management of archives can result in the archives becoming mere piles of paper that lack utility, making it difficult to retrieve information quickly and accurately when needed. Archival management is a critical office function that is not easily performed. Archives within an institution must be managed well to ensure they are easily retrievable when needed, assisting leadership, and supporting the work of all employees. An optimally managed archival system will facilitate the activities and goals of institutions, organizations, and individuals.

The management of archives is particularly significant at PTMJB. This government agency, involved in administrative activities, faces challenges in archive management due to a lack of human resources, inadequate storage facilities for both dynamic and static archives, leading to an accumulation and disorganization of records. The increasing volume of dynamic archives at PTMJB necessitates improved management practices.

Effective archival management is essential for ensuring administrative activities proceed smoothly, yet it is often overlooked due to various challenges, such as insufficient archival management equipment/facilities, inadequate storage, and a lack of technological tools for documenting dynamic active archives, which are still manually recorded in agenda books. Archive management involves more than just handling active archives; it includes the system of archive creation, sorting, and control. Effective archive control includes storage, security, maintenance, and eventual destruction or reduction of archives.

Prior studies on archival management highlight the importance of effective archive systems in ensuring accessibility and preservation. For instance, research has shown that poorly managed archives can lead to significant inefficiencies, such as difficulties in retrieving information, increased risk of data loss, and the potential for data degradation (Smith, 2020). Studies by Johnson (2019) and Lee (2021) underscore the importance of integrating modern technology in archival systems to enhance data retrieval and preservation.

Smith (2020) points out that archival systems often fail due to inadequate resources and outdated methods, emphasizing the need for technological integration. Johnson (2019) examines the benefits of digital archiving and the impact of technology on improving archival management practices. Lee (2021) explores the challenges faced by government institutions in maintaining archives and the importance of continuous improvement in archival practices.

The reviewed literature highlights a diverse range of approaches and advancements in archival management, emphasizing the integration of technology, best practices, and systematic strategies for efficient preservation and accessibility. Chao, Liu, and Chen (2023) underline the transformative potential of AI technologies in enhancing archival efficiency, which aligns with Anderson and Young's (2022) exploration of best practices for digital preservation that emphasize long-term sustainability. Both studies advocate for the adoption of advanced tools to address contemporary challenges in archival systems.

Further et al (2020) focus on user-friendly systems, emphasizing the importance of accessibility for diverse stakeholders, while Cook (2020) discusses the broader paradigm shifts in archival practices brought about by digital innovations. Similarly, Eastwood (2017) provides critical insights into how digitalization is reshaping traditional principles, indicating the necessity of adaptive management frameworks.

In the realm of security and preservation, Lee (2021) identifies gaps in safeguarding archives, advocating for comprehensive protocols to mitigate risks such as unauthorized access

and data breaches. Complementing this, Smith (2020) discusses maintenance strategies to preserve the physical integrity of archival materials, suggesting systematic cleaning and inspections as fundamental measures.

The study on archive management in secondary schools provides valuable insights into the organization and administration of records, yet it lacks a detailed discussion on the challenges faced by institutions in implementing efficient archiving systems (Suharti et al., 2020). Research on the dynamic arrangement of inactive archives highlights the importance of systematic structuring but does not address how technological advancements impact archival practices (Agustia & Nelisa, 2013). The significance of archival management in higher education institutions is emphasized, yet the study remains theoretical without presenting empirical data to support its claims (Damalita, 2009). The effectiveness of archival management in government offices is explored, but the research does not sufficiently examine the influence of organizational culture on archival efficiency (Dewi et al., 2015).

Religious culture's role in mental health advocacy is discussed, though the study does not integrate contemporary psychological perspectives that could enrich the analysis (Duke, 2016). The role of Christian military chaplains in promoting peace is analysed, yet the research does not address potential conflicts arising from religious pluralism in military settings (Duke, 2018). Museums as tools for combating corruption are explored, but the study does not provide concrete evidence on their effectiveness in altering public behaviour (Edet, 2014). The analysis of monolith heritage from an archaeological and historical perspective is insightful, yet the research lacks a comparative analysis with similar heritage sites (Enor et al., 2019).

The discussion on archiving is extensive, but some sources lack methodological clarity, making their findings less reliable (Goyena, 2019). The study on archival services in government offices emphasizes efficiency, though it does not explore the role of digital transformation in improving archival accessibility (Husain et al., 2015). The analysis of librarian performance identifies key issues, yet the study does not propose concrete solutions for improving work productivity (Winarandu, 2013). The design of an electronic archive management system is presented as a solution, but the study does not account for the financial constraints faced by many institutions (Latif & Pratama, 2015). The development of a multiuser archival system highlights the benefits of technological integration, yet its scalability in large institutions remains unaddressed (Lisnawanty, 2014).

The study on archival management for efficient office administration presents a strong argument, though it lacks empirical validation (Meirinawati & Prabawati, 2015). Language and culture in Nigeria's national education policy are discussed, but the research does not consider contemporary linguistic challenges in a multilingual society (Obot, 2015). The integration of culture, education, and philosophy into the Nigerian curriculum is explored, yet the study lacks a practical framework for implementation (Obot, 2019). The role of democratic education in political stability is analysed, though the study does not examine the resistance from political elites in adopting such reforms (Obot, 2019).

The examination of archival management presents theoretical insights, yet its applicability in modern institutions is not sufficiently explored (Riasmiati, 2016). The management of dynamic archives is well-documented, though the study does not discuss the impact of inadequate staffing on archival organization (Rosalin, 2017). The relationship between documentation, information, and archives is established, yet the study does not offer concrete policy recommendations (Rumani, 2009). The effectiveness of archive management in regional government offices is highlighted, but the study does not assess how bureaucracy affects archival procedures (Saputri et al., 2015). Electronic archive management is promoted as a modernization strategy, though the study does not explore cybersecurity risks associated with digital archiving (Sutirman, 2015).

The study on vital records management addresses emergency preparedness, but it lacks a discussion on risk mitigation strategies (Widodo, 2013). The examination of university archival institutions outlines their roles, yet the research does not consider variations in institutional

funding that may impact their effectiveness (Zaenudin, 2013). The comprehensive review of archiving practices contributes to existing literature, but a more interdisciplinary approach integrating technology, policy, and human resource management would enhance its relevance.

Millar (2019) offers foundational knowledge on archival principles, bridging traditional and digital methodologies, and providing a comprehensive overview of best practices. Schneider (1939) adds historical context by exemplifying the importance of correspondence in documenting and understanding archival evolution.

Together, these works illustrate the critical need for integrating technology, systematic strategies, and adaptive frameworks to address challenges in archival management. They collectively propose that a blend of digital tools, user-centric approaches, and proactive maintenance can ensure both the longevity and accessibility of archival materials.

The main issues facing in archival management include:

- (1) Inadequate Human Resources: There is a shortage of personnel dedicated to managing archives, leading to inefficiencies in handling and organizing records.
- (2) Insufficient Storage Facilities: The current storage spaces are inadequate for the growing volume of archives, resulting in disorganization and difficulties in accessing records.
- (3) Lack of Technological Integration: The absence of modern technology for managing and documenting dynamic active archives results in manual and inefficient record-keeping practices.
- (4) Poor Maintenance Practices: The existing maintenance practices are insufficient, leading to issues such as dust accumulation, potential damage to records, and improper organization of archives.
- (5) Security Concerns: The current security measures for protecting archives are inadequate, increasing the risk of loss or damage to valuable records.

This research aims to address the following objectives:

- (1) Evaluate the Current Archival Management System: Assess the existing archival management practices at PTMJB, including storage, maintenance, and security measures.
- (2) Identify Challenges and Gaps: Identify specific challenges and gaps in the current archival system, including issues related to human resources, storage facilities, technological integration, and maintenance practices.
- (3) Propose Improvements: Develop recommendations for improving archival management practices, including the implementation of modern technology, enhancement of storage facilities, and improvement of maintenance and security practices.
- (4) Enhance Efficiency and Effectiveness: Propose strategies to increase the efficiency and effectiveness of archival management, ensuring that archives are well-maintained, easily accessible, and securely protected.

By addressing these objectives, the research seeks to contribute to the development of a more effective and efficient archival management system, ultimately supporting better administrative operations and preservation of valuable records.

2. Method

2.1 Data Collection

The research employs a qualitative methodology to gain a comprehensive understanding of the archival management system at the PTMJB. The data collection process involves three primary techniques: interviews, observations, and document analysis.

- (1) Interviews: Semi-structured interviews will be conducted with key personnel involved in archival management at PTMJB. This includes archivists, administrative staff, and management. The interviews aim to gather insights into current practices, challenges faced, and perceptions regarding the effectiveness of the archival system. Interview questions will focus on areas such as the handling of dynamic and static archives, use of technology, storage conditions, maintenance practices, and security measures. Each interview will be recorded with consent and transcribed for detailed analysis.

(2) **Observations:** Direct observations will be carried out to assess the physical conditions of archival storage areas and the processes involved in archive management. Observations will focus on how archives are stored, organized, and maintained. This will include noting any visible issues such as overcrowding, inadequate facilities, and signs of deterioration or mismanagement. Observational data will help in understanding the practical challenges and inefficiencies in the current system.

(3) **Document Analysis:** A review of existing archival documentation and records management procedures will be conducted. This includes analysing archival inventories, storage logs, maintenance records, and security protocols. Document analysis will help in identifying discrepancies between documented procedures and actual practices. It will also provide insight into the historical evolution of the archival system and highlight areas where practices may have deviated from established guidelines.

2.2 Model Analysis

The analysis will be conducted using a combination of thematic analysis and a framework-based approach. This dual approach ensures a thorough examination of qualitative data and helps in identifying patterns, themes, and areas for improvement.

(1) **Thematic Analysis:** Thematic analysis will be used to identify and analyse recurring themes and patterns in the interview transcripts, observational notes, and document analysis. The process involves coding the data into categories and identifying key themes related to archival management challenges and practices. This method helps in understanding the common issues faced by PTMJB and provides insights into the effectiveness of current archival practices. Themes such as inadequate storage, lack of technological integration, and poor maintenance practices will be examined in detail.

(2) **Framework-Based Approach:** A framework-based approach will be applied to analyse the data in relation to existing models of archival management and best practices. This approach involves mapping the identified themes onto a conceptual framework that includes elements of archival management such as storage, maintenance, security, and technological integration. The framework will be adapted from established archival management models and tailored to the specific context of PTMJB. This approach helps in systematically assessing how the current practices align with best practices and standards in archival management.

The combined use of thematic analysis and a framework-based approach will enable a comprehensive evaluation of the archival management system at PTMJB. It will provide a detailed understanding of the strengths and weaknesses in the current system and support the development of targeted recommendations for improvement. The findings will be used to propose actionable strategies to enhance archival management practices, improve efficiency, and ensure better preservation and accessibility of records.

3. Results and Analysis

3.1 Results and Discussion

This section presents the findings and discussions based on the qualitative data collected through interviews, observations, and document analysis regarding the archival management system at the PTMJB. The results address the research problems and objectives outlined earlier, focusing on evaluating current practices, identifying challenges, proposing improvements, and enhancing the overall archival management system.

Findings.

3.1.1 Inadequate Human Resources

Interviews with staff at PTMJB have highlighted critical challenges in the company's archival management system, particularly the issue of understaffing and the lack of specialized training. These issues have resulted in inefficiencies in managing both dynamic and static archives, jeopardizing the organization's ability to maintain an effective information management system. Archival management is a cornerstone for organizational efficiency, serving not only as a repository for critical records but also as a tool for informed decision-making, compliance, and

operational continuity. However, the current state of archival practices at PTMJB reflects deeper systemic and resource-related concerns that demand urgent attention.

Understaffing in the archival management team at PTMJB has compelled existing personnel to assume multiple roles, stretching their capacity and limiting their effectiveness. Archival tasks such as cataloguing, preservation, retrieval, and ensuring compliance with regulatory requirements often compete with other administrative responsibilities. This division of labour diminishes the quality of archival management, as employees cannot dedicate sufficient time or attention to specialized tasks. Moreover, the lack of a dedicated team creates bottlenecks, particularly when records are required urgently for audits, legal matters, or operational purposes.

Smith (2020) underscores the importance of having sufficient personnel in archival management, noting that understaffing not only delays processes but also increases the risk of errors and data loss. PTMJB's experience aligns with these findings, as the lack of adequate human resources has made it challenging to implement consistent archival practices. Static archives, which typically consist of records no longer in active use but retained for historical or legal reasons, are especially vulnerable to neglect. Without dedicated oversight, these archives face risks such as misplacement, deterioration, and incomplete documentation. Similarly, dynamic archives, which involve active records, suffer from inefficiencies that impact day-to-day operations.

In addition to understaffing, the absence of specialized training among existing personnel has further exacerbated archival inefficiencies. Archival management today requires proficiency in modern techniques, including digital archiving, metadata creation, and the use of archival management software. However, at PTMJB, employees tasked with archival duties lack sufficient exposure to these tools and methodologies. This skills gap leads to inconsistent practices, where records are not uniformly organized or easily retrievable. Furthermore, poor training hinders the implementation of best practices in preservation, risking the long-term integrity of sensitive documents.

Johnson (2019) emphasizes that training is integral to the development of a robust archival management system. A well-trained team can apply advanced techniques to improve both the accessibility and security of archives, fostering a culture of accountability and efficiency. At PTMJB, the lack of training perpetuates a cycle of inefficiency, where existing personnel struggle to meet modern archival demands with outdated or ad hoc approaches. This not only affects internal operations but also places the organization at risk of non-compliance with legal and regulatory standards.

To address these challenges, PTMJB must prioritize the enhancement of its archival management system through two key strategies: increasing staffing levels and implementing targeted training programs. Increasing the number of dedicated archival staff will alleviate the burden on current employees and allow for a more focused approach to both dynamic and static archival tasks. Additionally, specialized training programs should be designed to equip existing personnel with the skills needed to manage archives effectively in the digital age. Training initiatives can cover areas such as electronic records management, data preservation, and compliance with archival standards, thereby fostering expertise within the team.

Investing in these areas will not only resolve current inefficiencies but also future-proof PTMJB's archival system against evolving demands. Furthermore, incorporating performance metrics to assess archival efficiency and regular audits to identify areas for improvement can ensure the system remains dynamic and responsive. By addressing the issues of understaffing and inadequate training, PTMJB can transform its archival management system into a strategic asset that supports organizational goals.

The challenges faced by PTMJB's archival management team highlight the critical need for systemic improvements. Understaffing and the lack of specialized training are interconnected issues that undermine the organization's ability to manage its records effectively. Addressing these problems through strategic interventions will not only enhance operational efficiency but also safeguard the organization's information assets for the future.

3.1.2 Insufficient Storage Facilities

The observations of archival storage facilities at PTMJB reveal critical inadequacies that threaten the preservation and accessibility of records. Archives are currently stored in overcrowded conditions, leading to physical damage and difficulties in retrieval. This situation is compounded by the absence of proper shelving and climate control, which are essential for maintaining the integrity of both physical and digital records. As archives serve as vital repositories of institutional knowledge and compliance documentation, their mismanagement can have serious operational, legal, and historical repercussions.

Overcrowding is one of the most visible issues in PTMJB's archival facilities. Storing records in cramped conditions not only risks physical damage, such as tearing, warping, or crushing of documents, but also complicates retrieval processes. When archives are disorganized and difficult to access, the time required to locate critical information increases significantly, leading to inefficiencies in administrative and operational workflows. Moreover, overcrowding often results in neglect of older records, which may contain historically or legally significant information.

Additionally, the lack of proper shelving exacerbates these challenges. Without organized and secure shelving, records are prone to stacking, which increases the likelihood of damage. Poor shelving also prevents categorization and systematic organization of archives, further complicating retrieval and management.

Another major issue is the absence of climate control systems. Environmental factors such as temperature, humidity, and exposure to light play a significant role in the preservation of archival materials. High humidity can cause mold growth, while fluctuations in temperature can lead to the physical deterioration of paper and other materials. Digital archives are equally susceptible, as electronic storage devices require stable environmental conditions to avoid data corruption or hardware failure.

Lee (2021) highlights the critical importance of proper storage conditions in archival management, emphasizing that poor environmental controls accelerate the degradation of materials. Without intervention, PTMJB risks the loss of irreplaceable information, which could impact compliance, decision-making, and institutional memory.

To address these challenges, PTMJB must prioritize upgrading its storage facilities. Installing proper shelving systems would ensure better organization and reduce the risk of physical damage. Climate control systems, including air conditioning, humidity regulators, and UV-resistant lighting, are essential to preserve archival materials over time. Additionally, implementing an improved access system, such as labelled shelving or an electronic records management system, can streamline retrieval processes and reduce overcrowding.

Investing in these upgrades would not only safeguard PTMJB's archives but also enhance overall organizational efficiency. Such improvements represent a long-term investment in the institution's operational and historical continuity.

3.1.3 Lack of Technological Integration

The reliance on manual systems for managing dynamic active archives at PTMJB presents a significant challenge in ensuring efficiency and accuracy. The institution's archival processes primarily depend on traditional methods, which require human intervention for documentation, organization, and retrieval. While manual systems may have been sufficient in the past, the growing volume and complexity of archives make them increasingly inefficient and prone to errors.

Manual systems inherently demand substantial time and labour to document, store, and retrieve records. At PTMJB, the absence of modern technology, such as digital archiving systems, exacerbates inefficiencies in managing dynamic active archives. For instance, cataloging documents manually increases the likelihood of errors, such as misfiling or incomplete data entry, which can complicate future retrieval processes. Furthermore, manual methods do not allow for real-time tracking or updates, making it difficult to monitor the movement and usage of active records.

Another major issue is the difficulty in maintaining the integrity of archives over time. Manual systems do not offer the robust data protection features that digital systems provide. Paper-based records are particularly vulnerable to physical damage, such as wear and tear, accidental loss, or disasters like fire and flooding. The lack of automated backup systems for critical data adds to the risk of losing valuable information.

Johnson (2019) emphasizes that the adoption of digital archiving systems can revolutionize archival management by improving efficiency, reducing errors, and ensuring better preservation. Digital systems allow for automated cataloging, which eliminates manual errors and ensures consistency in data organization. They also enable quick and accurate retrieval of records through searchable databases, reducing the time required for accessing critical information.

Furthermore, the use of digital archiving systems enhances the security and longevity of records. Digital platforms can incorporate features such as encryption, user authentication, and automated backups, ensuring the safety of sensitive information. For dynamic active archives, these systems can facilitate real-time tracking and updates, providing better control and management.

To address these challenges, PTMJB should prioritize transitioning to digital archiving systems and automated cataloging tools. The implementation of such technology will require an initial investment but promises significant long-term benefits. A phased approach could be adopted, starting with digitizing dynamic active archives while training staff on the new systems. Additionally, integrating cloud-based solutions can provide scalability and remote access, further enhancing operational flexibility.

Modernizing archival processes will not only reduce inefficiencies and errors but also align PTMJB with best practices in archival management, ensuring the preservation and accessibility of records for future needs.

3.1.4 Poor Maintenance Practices

The observations and document analysis of PTMJB's archival practices highlight a critical gap in the maintenance and preservation of records. The absence of regular cleaning, inspection, and overall maintenance has led to the accumulation of dust and the gradual deterioration of archived materials. This lack of systematic care not only threatens the longevity of the archives but also undermines their usability and accessibility for institutional needs.

Neglecting routine maintenance poses significant risks to the physical integrity of archival materials. Dust accumulation, for example, can accelerate the degradation of paper documents and other materials. Over time, this can result in discoloration, brittleness, and even complete loss of content. In addition, unclean or poorly maintained archives can attract pests, such as insects and rodents, which further contribute to the destruction of records.

The absence of a systematic inspection routine also prevents the early identification of potential issues, such as moisture damage, mold growth, or physical wear and tear. Without timely interventions, these problems can escalate, resulting in irreparable damage to critical documents. Such degradation not only impacts the archival materials' historical and operational value but also poses challenges for compliance with regulatory requirements, particularly if essential records are rendered unusable.

Smith (2020) underscores the importance of regular maintenance in preserving the condition of archives. A systematic approach to cleaning and inspecting records ensures that potential issues are detected and addressed before they cause significant damage. Regular cleaning reduces the accumulation of dust and debris, while inspections provide an opportunity to assess the condition of materials and storage facilities, enabling timely repairs or adjustments. In the case of PTMJB, the lack of maintenance standards suggests a need for comprehensive reform in archival management practices. A systematic maintenance schedule would ensure consistent care for archival materials and help prevent long-term degradation.

PTMJB should develop and implement a structured maintenance program tailored to its specific archival needs. This program should include regular cleaning of storage areas, the use of

appropriate cleaning methods and materials to avoid further damage, and routine inspections of both the archives and their storage environment. Training archival staff in basic preservation techniques would also be beneficial, ensuring that maintenance practices are carried out correctly and consistently.

Additionally, introducing environmental monitoring tools to track humidity, temperature, and air quality can help identify conditions that may contribute to the deterioration of materials. These preventive measures, combined with a maintenance schedule, will significantly enhance the longevity and usability of PTMJB's archival materials, protecting their value for institutional, legal, and historical purposes.

3.1.5 Security Concerns

The interviews and observations conducted at PTMJB revealed significant gaps in the security measures designed to protect archival materials. These inadequacies leave valuable records vulnerable to risks such as unauthorized access, theft, or loss. Security is a cornerstone of effective archival management, and its absence undermines the integrity, confidentiality, and longevity of the records being preserved.

Implications of Weak Security Measures

The lack of robust security protocols increases the likelihood of unauthorized individuals gaining access to sensitive archival materials. This poses risks to both institutional privacy and the preservation of historical or operational data. Unauthorized access can lead to the mishandling or removal of records, while the absence of monitoring systems makes it difficult to identify breaches when they occur.

Lee (2021) emphasizes that secure archival management systems are critical for preventing theft or accidental loss of records. Without sufficient security measures, archives are also at risk from internal threats, such as errors by untrained staff or deliberate breaches by disgruntled employees. Furthermore, the lack of secure storage options for sensitive or classified records creates additional vulnerabilities, particularly for institutions that handle information with legal or regulatory significance.

The Importance of Comprehensive Security Protocols

Effective archival security requires a multi-layered approach that combines physical, technological, and procedural safeguards. Physical security, such as restricted access areas, secure storage rooms, and surveillance cameras, deters unauthorized entry and facilitates monitoring. Technological measures, including access control systems and encrypted digital storage, enhance protection by limiting access to only authorized personnel. Regular security audits are also essential to identify vulnerabilities and update protocols in response to emerging threats.

For PTMJB, addressing these gaps in security is critical to safeguarding its archives. By implementing a comprehensive framework, the institution can ensure that its records remain protected against both internal and external threats.

To enhance security, PTMJB should adopt several key measures. First, implementing access controls, such as key-card systems or biometric authentication, can restrict entry to archival areas. Second, installing surveillance systems with cameras and motion detectors can provide continuous monitoring and deter potential breaches. Third, developing a security policy that outlines procedures for handling sensitive materials and responding to incidents will establish clear guidelines for staff.

Additionally, regular security audits should be conducted to assess the effectiveness of the measures in place and identify areas for improvement. Training staff on the importance of security and their role in protecting archives is also crucial. These efforts will ensure the protection of PTMJB's archival materials, safeguarding their value and ensuring their integrity for future use.

Recommendations

- (1) Increase Human Resources and Training

To address the issue of inadequate human resources, PTMJB should consider increasing the number of dedicated archival staff or providing specialized training to existing personnel. Training programs should focus on modern archival techniques, digital tools, and best practices to enhance the skills and efficiency of the archival team.

(2) Upgrade Storage Facilities

Investing in the improvement of storage facilities is crucial for preserving archival materials. PTMJB should upgrade its storage areas by installing proper shelving, climate control systems, and improved access mechanisms. These upgrades will help prevent overcrowding, physical damage, and deterioration of records.

(3) Implement Technological Solutions

Transitioning to digital archiving systems and automated cataloging tools will significantly enhance the efficiency and accuracy of archival management. PTMJB should invest in modern technology to streamline archival processes, improve data retrieval, and reduce the risk of errors associated with manual systems.

(4) Establish a Maintenance Schedule

Implementing a systematic maintenance schedule is essential for preserving the condition of archives. PTMJB should develop and enforce a regular cleaning and inspection routine for archival materials. This will help maintain the physical integrity of records and prevent issues such as dust accumulation and deterioration.

(5) Enhance Security Measures

To address security concerns, PTMJB should implement comprehensive security protocols. This includes access controls, surveillance systems, and regular security audits. Ensuring that only authorized personnel have access to sensitive records will help protect the integrity of archival materials and prevent unauthorized access or loss.

The study reveals several critical issues in the archival management system at PTMJB, including inadequate human resources, insufficient storage facilities, lack of technological integration, poor maintenance practices, and security concerns. Addressing these issues through targeted recommendations will significantly enhance the efficiency and effectiveness of the archival management system. By increasing human resources and training, upgrading storage facilities, implementing technological solutions, establishing a maintenance schedule, and enhancing security measures, PTMJB can improve the preservation, accessibility, and management of its archival records, ultimately supporting its administrative functions and operational goals.

4. Conclusion

The study on the archival management system at the PTMJB has provided valuable insights into the current practices, challenges, and areas for improvement. The research highlights critical issues related to inadequate human resources, insufficient storage facilities, lack of technological integration, poor maintenance practices, and security concerns. Addressing these issues through targeted recommendations can significantly enhance the effectiveness and efficiency of the archival management system.

The research identified several key findings: the shortage of specialized personnel leads to inefficiencies in managing archives; inadequate storage facilities contribute to physical damage and difficulty in record retrieval; limited use of technology results in manual inefficiencies and increased error rates; poor maintenance practices threaten the physical condition of archives; and inadequate security measures pose risks to the integrity of archival records. These findings underscore the need for a comprehensive approach to improving archival management at PTMJB.

Limitations of the Research

While the study provides a detailed assessment of archival management practices at PTMJB, several limitations should be noted. First, the research is based on a qualitative approach

involving interviews, observations, and document analysis. While these methods provide in-depth insights, they may not capture the full spectrum of archival management issues. The subjective nature of qualitative data can also lead to potential biases in interpreting findings. Second, the study focuses specifically on PTMJB, which may limit the generalizability of the results to other organizations or institutions. Different organizations may face unique challenges and require tailored solutions, making it essential to consider contextual differences when applying the findings. Third, the research did not include quantitative data, such as metrics on archival efficiency or the impact of implemented changes. Quantitative data could provide a more objective evaluation of the effectiveness of proposed recommendations.

Future Research Directions

Future research should address these limitations and explore additional aspects of archival management. Here are several recommendations for future studies:

- (1) Quantitative Analysis: Incorporating quantitative methods, such as surveys or performance metrics, can provide a more comprehensive assessment of archival efficiency and the impact of changes. This approach can help measure improvements in archival practices and provide objective evidence of the effectiveness of implemented solutions.
- (2) Broader Scope: Expanding the research to include multiple organizations or institutions can enhance the generalizability of the findings. Comparative studies across different sectors or types of organizations can offer valuable insights into common challenges and best practices in archival management.
- (1) Longitudinal Studies: Conducting longitudinal studies can track the long-term impact of changes in archival practices. This approach allows researchers to assess the sustainability of improvements and the ongoing effectiveness of implemented solutions over time.
- (2) Technological Advancements: Future research should explore the latest technological advancements in archival management. Investigating emerging technologies, such as artificial intelligence or blockchain, could provide innovative solutions for managing and preserving archival records.
- (3) Employee Training and Development: Further research could focus on the effectiveness of training programs for archival staff. Evaluating different training methods and their impact on staff performance can help identify best practices for enhancing the skills and knowledge of archival personnel.
- (4) Security Measures: A deeper investigation into security measures and their effectiveness in protecting archival records is warranted. Researching advanced security protocols and their application in archival management can help address security concerns and safeguard valuable records.

In conclusion, while the study has provided significant insights into the archival management system at PTMJB, addressing its limitations and exploring new research directions will contribute to a more robust understanding of archival practices. By expanding research efforts and incorporating diverse methodologies, future studies can further enhance the field of archival management and support the development of more effective and efficient practices.

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