Strategic Preservation of Rare Books in Iranian Libraries: Toward a Context-Sensitive Policy Framework

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Abstract

The preservation of rare books in Iranian libraries presents a complex challenge, influenced by factors such as formal policies, infrastructure, specialized staff, and disaster preparedness. This study introduces a comprehensive organizational knowledge management model designed to enhance the preservation, accessibility, and digitalization of special collections. Using a 28-item researcher-designed questionnaire, standardized through the Delphi technique, the study assessed the current state of special collections libraries. Findings indicate that while many libraries have preservation plans for rare books, significant challenges persist, including inadequate preservation documentation, limited insurance coverage, and insufficient attention to the digitization of materials. The study underscores the importance of balancing preservation with inclusive access, ensuring that rare materials are available to diverse communities. By integrating principles of social justice, the proposed model fosters equitable access to cultural heritage while promoting sustainable preservation strategies. The research

highlights the role of digital preservation as a critical tool for overcoming traditional barriers to access and ensuring that rare books are accessible to a global audience.

Keywords: Special Collections; Rare Books; Preservation and Conservation; Library Management; Digitization in Libraries; Cultural Heritage; Access to Rare Materials; Iranian Libraries

Introduction

Special collections and archival resources encompass a wide range of formats and subject areas that, due to their historical, social, cultural, or financial characteristics, are distinguished from other resources and require special care. Rare books and manuscripts, as part of these collections, typically have restricted access due to their sensitivity and importance, and their preservation demands specialized attention and expertise (Traister 2000).

Historically, special collections were designated as "special" primarily because of their preservation needs and were maintained outside the normal circulation of libraries (Cullingford 2017). Libraries, as collecting institutions, gradually recognized that these collections must be protected separately from general resources to prevent loss, theft, or damage. This necessitated the employment of trained specialists for the precise management of these materials (Galbraith & Smith 2012). Over time, the approach to special collections has evolved; these materials are no longer regarded merely as objects to be hoarded or protected from theft, but rather the intelligent preservation and access to them have become paramount (Bos 2012). In line with this, the "Ambassadors of the Book" conference held by IFLA in 2012 emphasized the importance of staff training to meet the needs of special collections (Galbraith & Smith 2012). Today, the term "special collections" should be defined in the context and content of use, rather than solely based on preservation

requirements. In many countries, these collections are referred to as "heritage collections," and UNESCO uses the term "documentary heritage" to encompass these resources more broadly, highlighting their value and significance (Bos 2012). This perspective calls for a more global approach to managing and planning these resources, achievable through case studies (Gorman 2018).

Books are recognized as non-reproducible objects, where only their textual content can be duplicated; therefore, preserving rare physical copies holds special importance (Campagnolo 2015; Dane 2016). In the digital era, providing textual content alone is insufficient to maintain the physical value of these materials, and their material characteristics must be carefully preserved. Thus, the preservation of rare books requires attention to both their physical structure and content, posing challenges such as managing "hidden collections" and simultaneously preserving analog and digital copies.

In Iran, the management of these collections rarely relies on scientific decision-making processes and mostly depends on general and subjective recommendations. The absence of standardized models or frameworks for managing these collections necessitates the development of localized policies and solutions.

This study is fundamental in purpose and employs a mixed-methods (quantitative–qualitative) design. In the first phase, Iranian libraries holding special collections were identified. Based on structural assessments, official library websites, and published catalogues of lithographic and Early imprint, twenty-nine libraries were recognized as systematically maintaining separate repositories for their rare materials. The foundation of this research lies in distinguishing these "special collections" from general library holdings. Data were collected using two instruments: a questionnaire and semi-structured interviews. Initially, interviews were conducted with experts in the field of special collections to identify professional concerns and empirically observed deficiencies.

Drawing on the findings of these interviews and the relevant literature, a researcher-designed questionnaire was developed.

To validate and standardize the questionnaire, the Delphi technique was employed. The process was conducted in two rounds. In the first round, eleven questions were drafted; following feedback from seven experts and the incorporation of their comments, the second round produced twenty-nine final questions, which were subsequently approved by the panel.

After analyzing the questionnaire data, a managerial model was proposed based on the identified strengths and weaknesses of preservation and maintenance systems in the studied libraries. This model was also validated using the Delphi technique among ten experts in librarianship and special collections. Expert ratings were provided on a five-point Likert scale ranging from "strongly agree" to "strongly disagree."

Quantitative data were analyzed using SPSS (version 28), while open-ended responses were processed through open and axial coding. Descriptive statistical techniques—including frequency distribution, percentages, means, standard deviations, and charting—were applied.

Content validity was confirmed with a Content Validity Ratio (CVR) of 0.70, exceeding the minimum acceptable threshold of 0.60. The Cronbach's alpha coefficient for the questionnaire's reliability was 0.707, indicating satisfactory internal consistency.

The study faced several limitations, including lengthy administrative procedures, cultural and perceptual differences among participants, restricted access to sensitive institutional data, and the scarcity of Persian-language literature on preservation practices for special collections.

In addition to technical and managerial challenges, the preservation of rare books increasingly involves ethical considerations related to access, responsibility, and equity. Preservation decisions—such as prioritization, levels of intervention, and access restrictions—are not value-neutral and may shape whose knowledge and cultural heritage are protected and made visible (IFLA 2016). Professional frameworks emphasize that preservation policies should be aligned with broader commitments to equitable access and social responsibility, particularly in the stewardship of cultural heritage materials (ALA 2019). This perspective highlights the need to balance the physical protection of fragile resources with sustainable and inclusive access strategies, especially in contexts where rare and historically significant materials have been unevenly preserved or accessed (Traister 2000; Bos 2012). Accordingly, preservation is positioned not only as a technical activity but also as a policy-driven practice with broader social implications.

Conservation and Preservation of Rare Books: Concepts, Challenges, and Policies

Although the terms "conservation" and "preservation" are often used interchangeably, Masters (2019) highlights important differences between them. "Conservation" refers to the actions taken to prevent future damage to a book, while "preservation" focuses on maintaining the book's condition, similar to a physician's role in ensuring no harm occurs. Both conservation and preservation policies are tightly connected to accessibility policies, as access to rare books is impossible without appropriate preservation efforts. However, these policies must also ensure that preservation does not limit user access. In this context, preventive measures are prioritized, with active conservation efforts implemented during crises (Masters 2019).

In the late twentieth and early twenty-first centuries, security became a significant concern for rare book collections. These included issues ranging from control equipment to managing hidden collections (Wilkie 2006). A key challenge in special collections librarianship is balancing the need for access with the need to protect and preserve fragile and irreplaceable resources. Achieving this balance is essential both economically and administratively, as neglecting either aspect can endanger the library's mission (Traister 2000).Special collections preservation and conservation policies serve as comprehensive guidelines for various materials, including manuscripts, rare books, and maps, with the aim of ensuring long-term access to these resources. For example, the Dr. Williams' Library's (DWL) special collections preservation policy emphasizes the importance of maintaining resources in their original form and structure. While it may sometimes be necessary to create replacement copies for conservation purposes, the original structure must not be compromised (Dr. Williams' Library: Preservation Policy objectives, n.d.). Additionally, the responsibility to preserve resources extends beyond current generations, justifying the designation of certain materials as "special collections" to ensure their availability for future use (Traister 2000).

Preserving older materials presents unique challenges, as they are more vulnerable to pests, environmental conditions, and physical deterioration. Many special collections libraries still rely on outdated environmental control systems, and fluctuations in temperature and humidity can accelerate material decay. To prevent this, institutions must take proactive measures to control their environmental conditions. This includes conducting thorough assessments of each collection's condition and planning accordingly. The absence of sufficient practical conservation information has often led to confusion in libraries' strategic planning. Starmer, McGough, and Leverette (2005) introduced the Time-Weighted Preservation Index (TWPI), which estimates the expected lifespan of materials based on environmental factors. For rare books, the TWPI suggests a lifespan of approximately 45 years, which is relatively short given the value of these collections (Starmer et al. 2005).

Understanding the historical distribution of rare books is also crucial, as the chemical composition of paper and other materials has evolved over time, especially during major transformations in the late nineteenth century. These changes further complicate the preservation process, requiring tailored strategies for each type of material.

Environmental Conditions and Damages

The preservation of rare books is highly dependent on maintaining optimal environmental conditions. Even small fluctuations in factors such as light, temperature, humidity, dust, insects, and air pollution can cause irreversible damage. These damages are typically classified into three categories: physical, chemical, and biological.

1. Physical Damage: Variations in temperature and relative humidity (RH) lead to physical deterioration of materials. Paper, parchment, and leather absorb moisture, causing warping, shrinkage, and cracking. Excessive dryness or heat can also result in the cracking of bindings, particularly leather ones. Repeated exposure to such environmental changes accelerates the physical damage (Cullingford 2017).

2. Chemical Damage: Changes in temperature and humidity trigger chemical reactions within materials, such as acidification and paper degradation. Light exposure accelerates photochemical reactions, weakening fibers and causing brittleness. Airborne pollutants like carbon dioxide further contribute to the chemical breakdown of materials, particularly the degradation of cellulose in paper (Starmer, McGough & Leverette 2005).

3. Biological Damage: High humidity and warmth create an ideal environment for mold, pests, and insects. Mold growth is most

likely when relative humidity exceeds 65%, while insects thrive in temperatures between 21 and 35 degrees Celsius. These biological agents cause permanent damage to paper, leaving irreversible stains and structural weaknesses (Wilkie 2011).

Light Exposure and UV Radiation

Light, particularly ultraviolet (UV) radiation, accelerates photochemical reactions that weaken the fibers of paper, leading to brittleness. To minimize the risk of damage, direct exposure to sunlight should be avoided in storage areas. Additionally, UV-absorbing films or protective covers should be applied to windows and lighting fixtures to further reduce UV exposure (Starmer, McGough & Leverette 2005).

Shelving and Storage Conditions

Proper shelving plays a critical role in preserving rare books. Metal shelves are preferred due to their durability and lower risk of contamination compared to wooden shelves. Books should be shelved vertically to prevent damage, and care should be taken to avoid overpacking, which can lead to abrasion or warping (Masters 2019).

Environmental Factors and External Damages

In addition to internal environmental conditions, external factors such as dust, insects, and air pollution significantly contribute to the deterioration of collections.

- **Dust:** Dust is a major contributor to the degradation of books. Many dust particles are hygroscopic, meaning they attract moisture, which accelerates mold growth. Dust accumulation also causes abrasive damage, particularly from mineral dust like soot, which weakens

paper fibers (International Federation of Library Associations and Institutions [IFLA], "Preservation and Conservation (PAC) Programme: Frequently Asked Questions").

- **Insects:** Insects cause both direct damage to books and to the storage shelves. To prevent insect infestation, it is crucial to control the storage environment by prohibiting food in storage areas and using appropriate screens on windows. Additionally, isolating incoming materials is necessary to prevent contamination (Cullingford 2017).

- **Air Pollution:** Airborne pollutants, such as carbon dioxide and ozone, can react with materials, leading to chemical degradation. To mitigate these effects, it is essential to manage air quality through regular air purification in storage rooms (International Federation of Library Associations and Institutions [IFLA], "Preservation and Conservation (PAC) Programme: Frequently Asked Questions").

Theft and Security

Theft continues to be a critical concern for rare book collections. To protect collections from theft, a multi-faceted approach is required, which includes the implementation of security systems like CCTV and effective supervision of reading rooms. One effective method for detecting theft is the accurate weighing of books before and after use. This technique helps identify discrepancies in weight caused by the removal of pages, which should then be thoroughly investigated (Wilkie 2006).

Preservation and Conservation of Digitized Rare Materials

Digitization is an essential preventive preservation method for rare materials. By creating digital surrogates, it reduces the need for direct interaction with the original resources, minimizing their wear and tear.

This process, also known as resource reproduction, produces visual representations of the original items, preserving their content while protecting the physical materials from damage (Fisher 2016).

While digital reproduction offers many benefits, it also presents several challenges. Despite rapid technological advancements, digital preservation is still evolving, and a comprehensive solution for the long-term preservation of digital materials has yet to be developed (Cullingford 2017). Tools, strategies, and policy frameworks exist to aid in digital preservation, but these approaches are still in development and need ongoing refinement (Fisher 2016).

One of the key advantages of digital reproduction in special collections management is the protection it offers to rare materials by facilitating access without the need for physical contact. However, even with conservation techniques, it is impossible to fully restore damaged materials to their original state. Thus, adjusting the handling environment for these materials becomes a crucial protective measure (Cullingford 2017). Digitization is especially important for materials that cannot be safely used in their original form or whose use might result in further damage (Fisher 2016).

Digital preservation differs from traditional analog preservation in significant ways. While paper materials may last for decades, digital resources can be lost unexpectedly and rapidly, making digital preservation a pressing concern (Cullingford 2017). Berger (2014) outlines two key aspects of digital preservation:

1. Using digital technologies to conserve analog materials.

2. Preserving content created in digital form.

Fisher (2016) emphasizes that the preservation of digital-born materials is particularly critical, as the loss of these materials results in the complete disappearance of the content. Therefore, digital preservation must be an

integral part of the overall preservation strategy for special collections to ensure the safeguarding of electronic information assets.

Management Principles and Policies for Rare Book Preservation

Materials in special collections require unique care, making preservation a central concern in all managerial decisions related to these resources (Cullingford 2017). The International Federation of Library Associations and Institutions (IFLA) established the Preservation and Conservation (PAC) program in 1984 to guide the preservation of library resources across formats. The PAC program emphasizes several core principles:

- Preservation is essential for the survival and advancement of culture and knowledge.
- International cooperation is vital for effective preservation.
- Each country is responsible for preserving its own cultural and informational resources (International Federation of Library Associations and Institutions [IFLA], "Preservation and Conservation (PAC) Programme: Frequently Asked Questions").

Sheehan (2009) highlights the complexity of decisions related to the future of special collections. These decisions require careful prioritization in preservation efforts. While digital technologies offer new opportunities, digitization should complement, rather than replace, physical preservation. A critical question arises: should the goal be to preserve the physical object, or is it more important to safeguard its content? This distinction between the structural and intrinsic aspects of materials is one of the major challenges in preservation management, requiring clear prioritization (Sheehan 2009).

The first step in effective preservation planning involves assessing the current condition of materials and identifying potential challenges. After establishing a preservation budget, it is necessary to use a standardized decision-making framework. Sheehan (2009) proposes two key dimensions of resource value:

1. Content Value Attributes:
    - Historical significance
    - Cultural importance
    - Provenance
    - Access and demand
    - Relevance (including marginalia and annotations)
2. Appearance Value Attributes:
    - Authenticity
    - Physical condition
    - Aesthetic qualities (e.g., binding, text structure, special features)

The PAC framework emphasizes both physical and digital preservation, integrating risk management as a crucial strategy. Risk management helps to identify, assess, and mitigate threats to the survival of materials, ensuring long-term preservation. The key benefits of adopting risk management include:

- A systematic framework for decision-making
- Applicability across diverse organizational contexts (International Federation of Library Associations and Institutions [IFLA], "Preservation and Conservation (PAC) Programme: Frequently Asked Questions")

In managing special collections, it is essential to balance the preservation of materials with the need for public access. Historically, preservation practices often limited access to resources, but modern special collections require a more flexible approach that allows for both conservation and public access. The goal is not simply to preserve the

materials but also to enable their use for educational and informational purposes (Dimmock 2016).

Digital Preservation Strategies and Challenges

Sheehan (2009) notes that while substantial budgets have been allocated to digitization in recent years, the preservation of original materials should remain a priority. Digitization plays a vital role in enhancing access and ensuring the survival of materials in digital format, but it should not overshadow efforts to protect physical collections. The integration of emerging technologies, such as blockchain and AI, has the potential to enhance both physical and digital preservation efforts (Mouzakitis et al. 2021; Kumar et al. 2025).

Managing digital representations of rare materials presents ongoing challenges. AI and blockchain technologies are increasingly important in maintaining the integrity and accessibility of digital archives. Careful attention is needed to ensure that digital surrogates not only increase access but also maintain the connection to the original materials. This ensures that the educational value of the original resources is not compromised (Bravo et al. 2025).

Furthermore, Mouzakitis et al. (2021) suggests that blockchain can significantly improve the security and authenticity of digital surrogates. As part of the digitization process, special care must be taken to preserve fragile resources using specialized equipment and protocols. Additionally, challenges arise when outsourcing digitization projects, such as ensuring expert consultation, controlling environmental factors during transportation, and using appropriate equipment to minimize damage.

Preventive Conservation

Preventive conservation encompasses a broad range of actions and activities aimed primarily at preventing damage and loss to collections and resources. These activities generally include:

- Assessing the condition of the collection
- Conducting special needs assessments
- Monitoring and managing environmental conditions (controlling temperature and relative humidity)
- Adjusting and controlling lighting levels and light conditions (International Federation of Library Associations and Institutions [IFLA], "Preservation and Conservation (PAC) Programme: Frequently Asked Questions").

One of the most important tools in preventive conservation is risk management, which is a systematic and principled method for identifying potential problems and threats within an organization's operational environment. This approach helps to better understand the organization's specific context and emphasizes identifying geographical, environmental, and organizational factors that may increase or decrease potential risks (International Federation of Library Associations and Institutions [IFLA], "Preservation and Conservation (PAC) Programme: Frequently Asked Questions"). The proper post-incident management steps are as follows:

1. Risk Assessment: Identification and ranking of potential hazards in the organization based on their likelihood of occurrence; for example, earthquakes in high-risk areas such as Japan are a major concern.

2. Prevention and Protection: According to the IFLA manual definitions, "prevention" refers to measures that help avoid the

occurrence of incidents, whereas "protection" pertains to actions taken to minimize damage if an incident occurs.

3. Preparedness: Carrying out necessary measures to prepare for potential incidents, including developing detailed plans, organizing incident response teams, providing essential equipment, and conducting training sessions.

4. Response: An organization's ability to react quickly and effectively to incidents as they occur. Preparedness for disaster response involves having a detailed plan, organizing response teams, preparing necessary equipment, and holding training for required actions.

5. Recovery and Restoration: The process of returning library services, facilities, and collections to normal conditions. The duration of this phase depends on the extent of the damage incurred (International Federation of Library Associations and Institutions [IFLA], "Preservation and Conservation (PAC) Programme: Frequently Asked Questions"; Guidelines for Planning the Digitization of Rare Book and Manuscript Collections, 2014).

Research Findings

- Criteria for identifying rare Persian and Arabic books:

Among the libraries studied, 12 libraries (42.9%) reported the absence of specific and formal criteria, while 16 libraries (57.1%) confirmed the existence of defined and documented criteria. Based on axial coding, the main factors include: collection objectives, antiquity, printing technique, publication limitations, physical characteristics (ornamentation), content, spiritual and material value, bibliographic attributes, preservation reasons, and political influences.

- Criteria for identifying Latin books:

Regarding Latin books, 15 libraries (53.6%) reported the lack of specific formal criteria, while 13 libraries (46.4%) indicated documented criteria. The most important criteria reported by the heads of rare books departments were antiquity and printing type. Other extracted factors include collection objectives, antiquity, printing technique, publication limitation, physical characteristics of the book as an object (ornamentation), content features, high spiritual value, high material value, bibliographic characteristics, reasons for preservation and maintenance, and language used in the work.

- Attitudes toward prioritizing preservation and maintenance over accessibility:

Only one respondent (3.6%) was strongly opposed, and two respondents (7.1%) opposed prioritizing preservation and maintenance over accessibility. Four respondents (14.3%) were neutral. In contrast, eight respondents (28.6%) agreed, and thirteen respondents (46.4%) strongly agreed with this approach (Table 1).

- Alignment of rare book collections with the institution's strategic policies:

Among the rare books department heads, seven (25%) rated the alignment of rare book collections with the institution's overarching policies as moderate, twelve (42.9%) as high, and nine (32.1%) as very high.

Conditions of preservation and maintenance of rare books in Iranian special collections libraries:

- Twenty libraries (71.4%) reported having a documented plan for the preservation and maintenance of rare books, whereas eight libraries (28.6%) lacked such a plan.

- Regarding preservation and maintenance of digitized rare books, nineteen libraries (67.9%) had documented programs, and nine libraries (32.1%) did not.

- Twenty-one libraries (75%) had library buildings designed according to library needs, while seven libraries (25%) did not have purpose-built structures.

- Nineteen libraries (67.9%) used special signs or labeling to identify rare books, whereas nine libraries (32.1%) did not.

- Seventeen libraries (60.7%) maintained a separate conservation section staffed with preservation and restoration specialists, while eleven libraries (39.3%) did not.

- Only eleven libraries (39.3%) possessed a preservation profile for their rare books; seventeen libraries (60.7%) lacked this documentation.

- Twenty-one libraries (75%) were equipped with smoke and fire detection systems; twenty-two libraries (78.6%) had fire suppression systems; however, only eleven libraries (39.3%) had access to the nearest fire station.

- Twenty-three libraries (82.1%) had assessed evacuation routes in case of fire emergencies (Table 2).

- Insurance coverage of rare book collections:

According to the heads of rare books departments, nine libraries reported having insurance coverage. Only one case offered comprehensive insurance covering all risks. Other cases reported limited coverage, including fire, earthquake, and compensation for damages to printed, visual, audio resources, and library equipment.

- Electrical systems and wiring:

Among 28 libraries surveyed, 23 libraries (82.1%) reported having standard electrical wiring and infrastructure systems. The frequency of system inspection varied as follows: daily inspections in 4 libraries (14.3%), weekly in 2 libraries (7.1%), monthly in 4 libraries (14.3%), quarterly and semi-annually in one library each, and annually in 3 libraries (10.7%). Thirteen libraries (46.4%) reported irregular inspections, citing reasons such as "inspection upon problem or alert" and "budget constraints" (Figure 1).

- Fire extinguishing training for staff:

In 17 libraries (60.7%), all staff members had received fire extinguishing training; in 2 libraries (7.1%), only librarians were trained; in 2 libraries (7.1%), only service staff were trained; and in 7 libraries (25%), none of the personnel had received fire training.

- Separation of rare book storages and policies:

Among 28 rare book collection managers, 23 (82.1%) fully agreed with maintaining separate storage and policies for rare and special collections apart from other library sections; 4 (14.3%) agreed; and only 1 (3.6%) disagreed with this separation (Table 3).

- Material of rare book storage shelves:

In 18 libraries (64.3%), storage shelves for rare books were made of metal, while in 10 libraries (35.7%), wooden shelves were reported (Figure 2).

- Statistical estimation of materials requiring restoration and rebinding:
    - 39.3% of managers estimated 10 to 20 percent of resources require restoration or rebinding;
    - 28.6% estimated 20 to 40 percent;

- 21.4% estimated less than 10 percent;
- 10.7% estimated more than 40 percent (Figure 3).

- Environmental condition control:

Among six preservation and maintenance indicators, the highest mean score (3.75 ± 1.1) pertained to "protection against animals and insects." The indicators "temperature and humidity control" and "lighting control with standard light filters" both had a mean of 3.64 ± 1.22, ranking second. "Dust removal from books" scored 3.64 ± 0.87 and ranked third. The lowest mean scores were for "preparedness of the collection against potential damage and disasters" (3.14 ± 1.32) and "physical damage to resources (0.79 ± 1.57)."

- Dust removal methods included: specialized book vacuuming, brushing, and use of dry cloths.

- Control of animals and insects involved: annual pesticide application and trapping.

- Emergency exit routes:

Only 5 libraries had defined emergency exit routes and evacuation plans specifically designed for salvaging rare and valuable materials. These plans included emergency staircases and clearly marked routes with glow-in-the-dark signage. No such plans were reported in the remaining libraries (Table 4).

- Objectives of digitization:

53.6% of respondents indicated preservation and maintenance of resources as the main objective; 42.9% aimed at increasing access levels; and 3.6% cited other factors (Figure 4).

- Attitudes toward the impact of digitization on the value of rare books:

14.3% of managers agreed or strongly agreed that imaging and digitization affect the authenticity and value of rare books; 14.3% were neutral; and 71.4% disagreed or strongly disagreed with this effect.

- Evaluation of rare book collection managers on staff training:

All managers of special collections expressed the necessity of holding training courses related to rare books and special collections. Training courses identified as useful in the field of rare books included: "Identification of rare books," "Book as object features," "Printing techniques," "Collection development and access," "Cataloging," "Digitization," "Preservation and conservation," and "Familiarity with resources, tools, and resource management." Among these, "Identification of rare books" was regarded as the most essential course by 13 respondents (64.4%). "Cataloging of rare books" and "Preservation and conservation of rare books" were each selected by 6 respondents (21.4%), and "Collection development and access to rare books" was identified as essential by 3 respondents (10.7%) (Figure 5).

- Attitudes toward the objectives of rare book collections:

Respondents assigned the highest importance to "preservation and conservation of resources," identifying it as the primary goal of rare book collections. "Use by researchers and scholars" was also cited as an important objective alongside preservation.

- Policy priorities:

Seventy-five percent of the collections studied (28.6% agreeing and 46.4% strongly agreeing) prioritized preservation and conservation policies over resource accessibility policies.

Discussion, Conclusion, and Broader Implications

Libraries with special collections and rare books face complex challenges regarding security and preservation. These challenges underline the importance of rigorous conservation principles and maintaining the longevity of resources. Given the irreplaceable nature of many of these materials, acquiring general insurance or independent coverage is often impractical. Thus, continuous preservation efforts and the adoption of modern technologies are essential to safeguard their cultural significance. However, preservation should not only focus on the physical conservation of resources but must also balance accessibility, ensuring equitable access to these materials, especially through the lens of social justice.

Managing special collections requires a delicate balance between preservation and accessibility. A singular focus on preservation may result in these resources being locked away, limiting their availability for scholarly use. On the other hand, leveraging digital technologies can enhance access while maintaining the physical integrity of the materials. Therefore, libraries must ensure that their policies prioritize both accessibility and preservation. This approach will help make historical and cultural materials accessible to all members of society, regardless of their background, ethnicity, or social class.

As libraries, museums, and archives increasingly converge in their management of rare materials, new opportunities emerge for advancing organizational knowledge and improving the processes of preservation, documentation, and access. This integration supports a better understanding of the nature of information and its role in knowledge transfer. However, it is essential to ensure that these efforts are inclusive, combatting exclusionary practices and making resources available to marginalized communities. This supports the broader goal of social justice in cultural heritage management.

The management of special collections demands expertise across several areas: collection development, cataloging, preservation, information technology, and public services. It is crucial to provide specialized training for librarians to help them serve as ambassadors for cultural heritage. Furthermore, collaboration between special collections librarians and liaison librarians—especially in the digital realm—plays a pivotal role in safeguarding resources and improving access. This collaborative approach encourages knowledge sharing across cultural boundaries, ensuring equitable access to rare and valuable materials.

One of the key challenges for libraries is finding the right balance between the preservation of resources and the accessibility of those resources. Given the ever-evolving technological landscape and the dynamic nature of special collections, ongoing innovation in preservation strategies is critical. These strategies must be inclusive, addressing the needs of underrepresented groups in academia and society at large. Libraries must not only focus on the conservation of physical resources but also ensure that cultural and historical materials are available to all members of society, regardless of their race, gender, socioeconomic status, or nationality.

The principle of social justice should be central to the management of special collections. Historically, access to rare materials has often been restricted to a privileged few. This exclusionary practice has perpetuated inequities in the sharing of knowledge and cultural preservation. As Traister (2000) notes, many rare books and special collections have historically been housed in spaces with limited access, reserved for those deemed "qualified." This practice has often been rooted in arbitrary criteria, such as education level, race, or ethnicity. These practices should be reconsidered, particularly in light of Ranganathan's law, "Books are for everyone." This principle aligns with the goal of ensuring universal access to information, regardless of social status, education, or ethnicity.

In today's context, as libraries seek to serve broader and more diverse populations, they must not only preserve rare collections but also make

these materials accessible to a wider audience. Libraries must transition away from outdated models that restrict access based on arbitrary criteria and adopt open access policies that support social justice. This shift necessitates new strategies to ensure digital access to rare materials, allowing everyone—from scholars to marginalized groups—to access important cultural documents without the physical limitations of traditional access policies.

Digital preservation is crucial in ensuring that rare materials are not only preserved but made accessible globally. By digitizing collections, libraries can overcome barriers such as geography, financial status, and educational background, which often restrict access. Digital platforms offer the potential to share rare resources widely, promoting equitable access to students, researchers, and advocates from diverse communities.

Thus, integrating digital technologies in preservation efforts is not just a technical necessity; it is a social responsibility. Libraries must ensure that their digital repositories serve all communities, particularly those historically underrepresented in scholarly spaces. By prioritizing equal access to digitized materials, libraries can foster inclusive knowledge-sharing and contribute to a more just and equitable society.

Recommendations for Integrating Social Justice into Preservation Policies

1. Develop inclusive preservation policies: Libraries should update their preservation policies to prioritize accessibility and social justice. These policies should ensure that all communities, including marginalized and historically underserved groups, can access rare materials.

2. Provide digital access to rare materials: Libraries should make digitized versions of rare books and manuscripts available to the public through open access platforms. This will allow global

access, removing barriers based on geography, socio-economic status, and educational background.

3. Expand professional development for librarians: Librarians working with special collections should receive training not only in preservation techniques but also in cultural sensitivity, social justice issues, and inclusive practices. This will help them meet the needs of diverse global audiences and ensure that collections are managed according to values of equity and inclusion.

4. Encourage community involvement: Libraries should engage underrepresented communities in the preservation process. This can be done through crowdsourcing projects where community members contribute their knowledge, ensuring that the preservation process reflects a range of cultural narratives.

In conclusion, the preservation and conservation of special collections should not be seen merely as an effort to protect physical materials, but as an opportunity to promote social justice through equitable access to cultural heritage. The proposed model in this study, which integrates Organizational Knowledge Management, recognizes the need for ongoing preservation and accessibility. Libraries must not only protect their rare resources but also ensure these materials are accessible to all communities, regardless of background or social status.

The future of libraries with special collections lies in combining effective preservation techniques with policies that promote social justice. Through digital preservation, inclusive policies, and professional development focused on equity, libraries can ensure that rare and special collections serve as resources for all people, fostering global knowledge sharing and cultural understanding.

By embracing these principles, libraries can fulfill their mission not only to preserve cultural heritage but also to ensure that this heritage is

accessible to all, reflecting the ideals of social justice that should guide contemporary library practices.

Considering the importance of preserving special collections and the necessity of safeguarding this cultural heritage, the present proposed framework—based on an organizational knowledge management model—aims to establish a systematic and efficient structure for the preservation, maintenance, and enhancement of accessibility of these collections which can be seen in Table 5.

The proposed model in this study is derived from a broader framework based on Organizational Knowledge Management, designed to manage libraries with special collections using a knowledge management approach. This model consists of two interrelated cycles: an internal cycle and an external cycle. The preservation and maintenance aspect is specifically extracted from the internal cycle of this model, which focuses on the processes of managing knowledge assets. The internal cycle includes actions related to information security, resource security, information accessibility, and staff training to preserve and maintain rare and special materials.

In this model, the preservation and maintenance of rare books are aligned with the conversion of tacit knowledge to explicit knowledge, maintaining and securing the resources, and ensuring information security. This section also addresses digital preservation of rare materials and environmental control, such as managing temperature, humidity, and lighting, which are essential for the preservation of rare books.

The preservation model proposed in this study, as part of the broader Organizational Knowledge Management framework, is specifically presented in Table 5, aiming to ensure the preservation, maintenance, and accessibility of special collections in libraries.

Table 1. Frequency distribution of administrators' attitudes regarding the priority of preservation over accessibility of resources

	Strongly Agree	**Agree**	**No Opinion**	**Disagree**	**Strongly Disagree**	**Total**
In rare and special collections, the priority of preservation is higher than accessibility	13 (46.4%)	8 (28.6 %)	4 (14.3%)	2 (7.1%)	1 (3.6%)	28 (100)

Standard Deviation	**Mean**
1.11981	**4.0714**

Table 2. Frequency distribution of administrators' responses to preservation indicators of rare books

Preservation Indicator	Yes	No	Total
Is there a documented and formal plan or program for the preservation of rare and special books in this library?	20 (71.4%)	8 (28.6%)	28 (100%)
Is there a documented and formal plan or program for the preservation of digitized rare books in this library?	19 (67.9%)	9 (32.1%)	28 (100%)
Was the existing building originally designed as a library?	21 (75%)	7 (25%)	28 (100%)
Are special marks or signs used on rare books in this collection to identify them if removed for any reason?	19 (67.9%)	9 (32.1%)	28 (100%)
Is there a separate conservation/restoration section in this collection?	17 (60.7%)	11 (39.3%)	28 (100%)
Is there specialized staff for preservation, conservation, and restoration in this collection?	17 (60.7%)	11 (39.3%)	28 (100%)
Has a preservation record (protective ID) been prepared	11 (39.3%)	17	28 (100%)

for the rare and special items in the collection?		(60.7%)	
Is the library equipped with a smoke and fire alarm system?	21 (75%)	7 (25%)	28 (100%)
Is the library equipped with a fire suppression system?	22 (78.6%)	6 (21.4%)	28 (100%)
Is the library equipped with an alarm system connected to the nearest fire department?	11 (39.3%)	17 (60.7%)	28 (100%)
Have access routes to the library and building been evaluated for emergencies such as fire?	23 (82.1%)	5 (17.9%)	28 (100%)
Is the wiring and electrical installation of the library building up to standard?	23 (82.1%)	5 (17.9%)	28 (100%)
Is the library insured against potential damages and risks?	9 (32.1%)	19 (67.9%)	28 (100%)

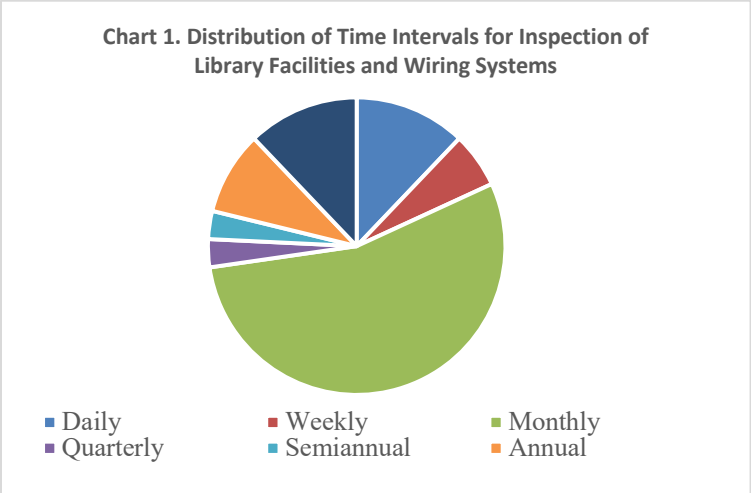
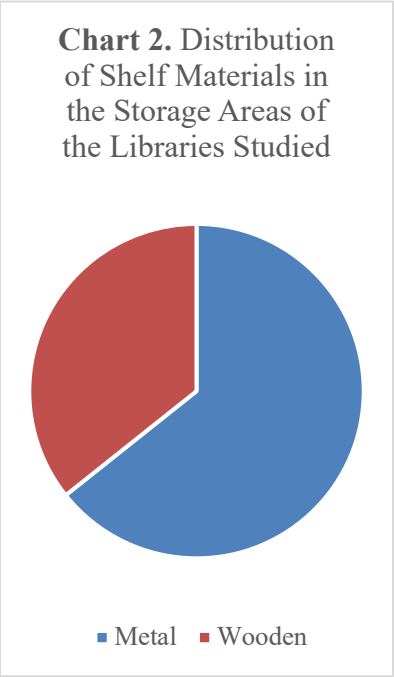


Table 3. Frequency Distribution of Administrators' Approach Regarding the Policy of Separating Rare Books from Other Sections of the Library

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Total
Rare and Special Collections in Libraries Should Be Kept Separate from Other Sections of the Library	**23 (82.1%)**	**4 (14.3%)**	**1 (3.6%)**	**0 (0%)**	**0 (0%)**	**28 (100%)**

Standard Deviation	Mean
0.64550	4.75



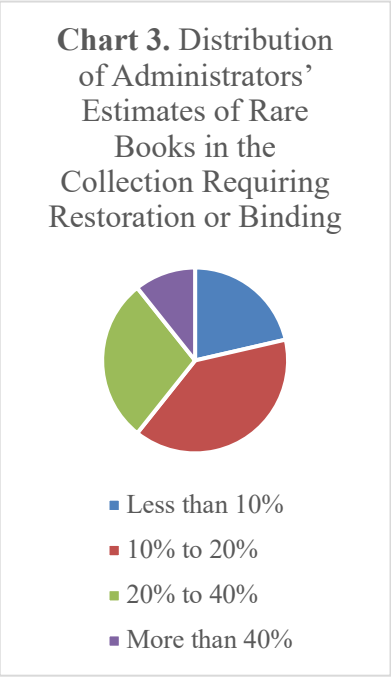


Table 4. Frequency Distribution of Staff Attitudes toward Rare Books Preservation and Maintenance Indicators

	Very High	High	Moderate	Low	Very Low	Total
In this collection, books are dusted at regular intervals	7 (25%)	4 (14.3%)	0 (0%)	0 (0%)	17 (60.7%)	28 (100%)

In the rare and special books storage areas of this library, there is good control over lighting and the use of standard filters for light exposure	10 (35.7%)	4 (14.3%)	4 (14.3%)	1 (3.6%)	9 (32.1%)	28 (100%)
In the rare and special books storage areas of this library, there is proper control over temperature and humidity	9 (32.1%)	6 (21.4%)	2 (7.1%)	2 (7.1%)	9 (32.1%)	28 (100%)
In the rare and special books storage areas of this library, protection against pests and insects is in place	9 (32.1%)	7 (25%)	2 (7.1%)	1 (3.6%)	9 (32.1%)	28 (100%)
Rare materials have suffered physical damage during the digitization process	0 (0%)	0 (0%)	6 (21.4%)	17 (60.7%)	5 (17.9%)	28 (100%)
How would you assess the preparedness of this collection against potential damages and disasters (such as earthquakes,	5 (17.9%)	6 (21.4%)	2 (7.1%)	5 (17.9%)	10 (35.7%)	28 (100%)

fires, etc.)?	

Standard Deviation	Mean
0.86984	3.6429
1.22366	3.6429
1.22366	3.6429
1.10972	3.75
1.79015	1.5714
1.32537	3.1429

Figure 4. Distribution of Priorities for Digitizing Rare Books in the Examined Collections

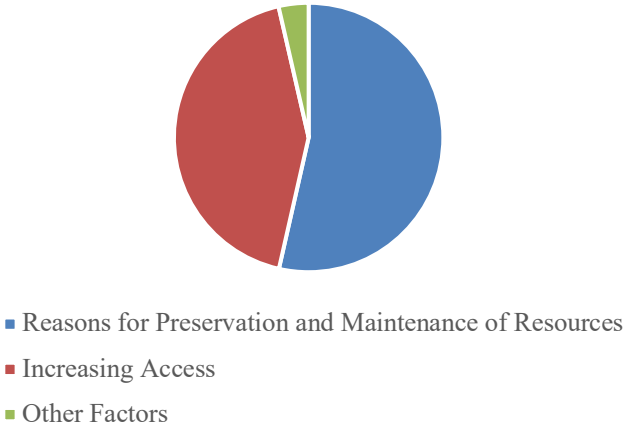


Figure 5. Distribution of Staff Approaches Regarding the Most Essential Training Courses Related to Rare Books and Special Collections

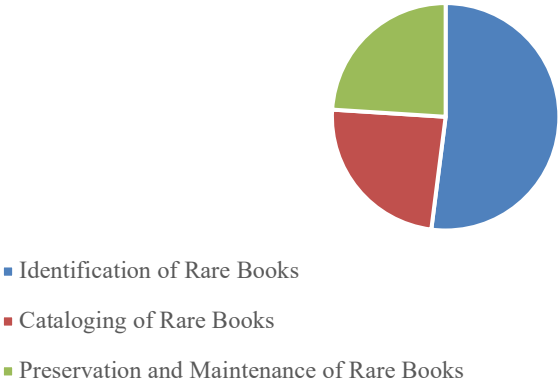


Table 5. Proposed Plan for the Preservation and Maintenance of Rare Books in Special Collections

Row	Component	Key Actions	Priority	Evaluation Indicators
1.	Assessment & Identification	• Conduct comprehensive assessment of collections' physical condition • Identify threatening factors (humidity, light, temperature, pests) • Prepare status report for each collection	High	% of collections assessed; number of threats identified
2.	Storage Environment Optimization	• Continuous temperature & humidity control • Provide adequate lighting; prevent direct sunlight • Proper ventilation and air filtration	High	Environmental parameters within standard ranges; % of collections in optimal storage

		• Separate vulnerable collections		
3.	Packaging & Placement	• Use acid-free boxes and covers • Arrange books vertically and orderly • Maintain sufficient spacing to prevent damage	Medium	% of collections properly stored; number of damaged items
4.	Staff Training	• Conduct training on preservation and handling • Train staff to identify and respond to damages • Familiarize with pest control and emergency procedures	Medium	Number of staff trained; number of training sessions
5.	Recording & Documentation	• Accurately record collection information • Document all maintenance actions • Use digital monitoring technologies	High	Completeness of records; % of actions documented

6.	Damage Prevention & Response	• Conduct periodic inspections • Implement pest prevention and control programs • Prepare equipment and procedures for emergencies	High	Number of inspections; emergency preparedness index
7.	Specialized Collaborations	• Collaborate with preservation and conservation experts • Apply international standards • Network with other libraries and similar institutions	Low	Number of collaborations; level of standard adoption

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