

PRESERVATION AND CONSERVATION PRACTICES AND INFORMATION RESOURCE LONGEVITY IN UNIVERSITY LIBRARIES IN NORTH CENTRAL NIGERIA

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Abstract

Academic libraries in North Central Nigeria experience continuous deterioration of information resources due to environmental conditions, human handling, and resources characteristics, which affects their usability and long-term access. This study examined preservation and conservation practices as determinants of the longevity of information resources in university libraries within the region. The study specifically identified existing preservation practices, assessed their influence on resource longevity, and determined factors responsible for deterioration. A descriptive survey design was adopted. The population comprised 95 library staff from three university libraries, and total enumeration was used. Data were collected using a structured questionnaire, with 90 valid responses retrieved, representing a 94.0% response rate. Data were analyzed using descriptive statistics including frequency, percentage, mean, and standard deviation, alongside inferential techniques. Findings show that preservation and conservation practices such as staff training, routine cleaning, shelving, environmental control, and policy guidance are actively implemented. These practices have a positive influence on the longevity of information resources, particularly through user education, binding and repair activities, and staff compliance with preservation guidelines. However, the overall improvement in longevity is moderate, indicating variation in the effectiveness of combined practices. Deterioration is strongly influenced by poor handling of resources, aging and acidic paper, rodent and pest damage, humidity, dust, and inadequate staff training. The study concludes that preservation and conservation practices improve the lifespan of information resources, but their effectiveness is reduced by persistent deterioration factors. Strengthening user education, improving environmental control systems, and ensuring consistent implementation of preservation and conservation practices are necessary to enhance resource longevity.

Keywords: Preservation practices, Conservation practices, Information resource longevity, Deterioration factors, University libraries.

Introduction

Academic libraries serve as long term custodians of recorded knowledge, yet many institutions continue to face persistent deterioration of their information resources despite existing management structures and professional practices. Physical and digital resources in these libraries experience gradual decline through environmental exposure, frequent handling, poor storage systems, and delayed maintenance interventions that weaken their usability over time. University libraries located in North Central Nigeria reflect this condition through observable damage to print collections, unstable digital storage systems, and limited technical capacity for sustained preservation efforts. Suleiman and Akintunde (2021) explains that deterioration in academic libraries is not a sudden occurrence but a continuous process driven by environmental conditions, resources composition, and human interaction patterns that accumulate measurable effects over time. This condition affects the reliability of library collections and reduces the ability of libraries to support teaching, learning, and research functions effectively. Such persistent deterioration raises concern about how libraries manage preservation and conservation practices, which leads directly to the need to examine how these practices influence the longevity of information resources.

Longevity of information resources represents the duration through which library resources remain usable, accessible, and relevant for academic purposes without significant loss of quality or content integrity. Measurement of longevity is possible through indicators such as physical condition of resources, frequency of replacement, accessibility rates, and continuity of use across different user groups within the university system. Sustaining longevity reduces repeated acquisition costs, supports uninterrupted access to scholarly resources, and strengthens the institutional role of libraries as stable knowledge repositories. Omoju and Omotayo (2024) notes that when preservation practices are properly implemented, libraries experience extended usability of their collections and reduced financial pressure associated with frequent

replacement of damaged resources. This relationship shows that preservation and conservation practices are not routine technical activities but structured interventions that directly affect how long information resources remain useful within academic environments. Such understanding creates a logical transition toward examining whether the practices currently used in university libraries in North Central Nigeria are sufficient to maintain expected levels of resource longevity.

Preservation and conservation practices in academic libraries include activities such as environmental control, proper shelving, digitization, repair of damaged resources, and staff training on handling procedures, yet the effectiveness of these practices depends on consistency, technical knowledge, and institutional support. Evidence from observed library operations in the study area shows variation in the application of these practices, where some libraries implement structured preservation strategies while others rely on basic maintenance approaches that may not adequately address long term deterioration risks. Eyo, Nsa, and Nyanibo (2025) argues that the effectiveness of preservation practices should be evaluated based on measurable outcomes such as reduction in resources damage and extension of resource lifespan rather than mere presence of policies or guidelines. This perspective highlights the need to move beyond descriptive identification of practices toward empirical assessment of how these practices influence the longevity of information resources. Such reasoning exposes a gap where many studies describe preservation methods but do not establish a measurable relationship between these methods and actual resource lifespan outcomes, which leads directly to the focus of this study.

Existing studies on preservation and conservation in academic libraries within Nigeria often emphasize types of practices, challenges faced by librarians, and general recommendations for improvement, yet limited attention is given to quantifying how these practices affect the longevity of information resources in specific regional settings. Research evidence rarely connects deterioration factors, preservation actions, and longevity outcomes within a single analytical framework that allows for empirical testing of their relationships. This gap becomes more pronounced in North Central

Nigeria, where environmental conditions, institutional funding levels, and technical capacity differ across universities, thereby influencing preservation outcomes in distinct ways. Lack of empirical linkage between preservation practices and measurable longevity indicators restricts the ability of library administrators to make data driven decisions regarding resource management and policy development. Addressing this gap requires a structured investigation that combines identification of existing practices, examination of their influence on resource longevity, and analysis of deterioration factors that interfere with preservation efforts, which forms the basis for the present study.

This study aims to examine preservation and conservation practices as determinants of the longevity of information resources in university libraries located in North Central Nigeria through a systematic and data driven approach. Specifically, the study seeks to identify the preservation and conservation practices currently used in these libraries, assess how these practices influence the longevity of information resources, and determine the factors responsible for deterioration and their effects on resource lifespan. These objectives are addressed through empirical analysis of data collected from the study population, allowing for measurable evaluation of relationships between practices and outcomes. The study also tests the assumption that preservation and conservation practices have no significant influence on the longevity of information resources, alongside the assumption that deterioration factors do not significantly affect resource lifespan within the study area. Findings from this investigation are expected to provide evidence based insights that support improved preservation strategies and informed decision making within university library systems.

Research Questions

1. What preservation and conservation practices are used in university libraries in North Central Nigeria?

2. To what extent do preservation and conservation practices influence the longevity of information resources in university libraries in North Central Nigeria?
3. What factors are responsible for the deterioration of information resources and how do they affect resource lifespan in university libraries in North Central Nigeria?

Literature Review

Preservation and conservation practices in academic libraries have received sustained attention in recent years, with emphasis placed on both traditional and technology driven approaches that support continued access to information resources. Studies show that libraries employ a combination of environmental control, routine maintenance, digitization, proper shelving, and policy guided handling procedures to reduce deterioration and extend the usability of resources. Abdullahi and Lawal (2025) explain that emerging technologies such as digital repositories and automated storage systems have improved the capacity of university libraries to preserve both print and electronic resources in more structured ways. Empirical evidence also indicates that staff training and institutional commitment influence the effectiveness of these practices, since poorly implemented strategies often fail to produce expected outcomes despite the presence of formal policies (Abdullahi & Lawal, 2025; Ezeani & Okwor, 2025). Research further shows that preservation practices differ across institutions due to variations in funding, infrastructure, and technical expertise, which creates uneven outcomes in resource management. While many studies successfully identify existing preservation methods, fewer studies provide measurable evaluation of how these practices translate into sustained usability of resources over time, which leads to the need for deeper analytical focus on their outcomes.

The concept of longevity of information resources has been examined as an outcome of effective preservation and conservation practices, with attention given to how long resources remain accessible, usable, and intact within library systems. Longevity is often assessed through indicators such as physical durability of print

resources, stability of digital files, frequency of repair or replacement, and consistency of user access across time. Obande et al. (2024) note that technological strategies such as digitization, cloud storage, and redundancy systems contribute to extending the lifespan of digital resources, while traditional conservation methods remain essential for maintaining print collections. Studies also show that preservation practices influence not only physical survival of resources but also their accessibility, which affects how users interact with library resources over extended periods (Mabawonku, 2023; Mesagan, 2024). Despite these insights, existing literature tends to treat longevity as an assumed benefit of preservation without consistently measuring it as a distinct outcome variable. This limitation reduces the ability to establish clear relationships between specific practices and measurable lifespan indicators, thereby creating uncertainty about which strategies produce the most effective results in different institutional settings.

Deterioration factors affecting library resources have been widely discussed in relation to environmental conditions, human handling, resources composition, and institutional limitations that collectively reduce the lifespan of information resources. Aliyu et al. (2023) identify environmental elements such as temperature fluctuations, humidity levels, dust, and light exposure as major contributors to the gradual degradation of library resources, particularly in regions with unstable climate control systems. Human related factors, including improper handling, lack of user awareness, and inadequate staff training, also contribute significantly to resources damage and accelerated deterioration. Additional studies highlight the role of poor storage facilities, inadequate funding, and absence of consistent preservation policies as structural issues that weaken conservation efforts in university libraries. Research further indicates that digital resources are not exempt from deterioration, as technological obsolescence, software incompatibility, and data corruption pose serious risks to long term accessibility (Okorie & Nwosu, 2022; Obande et al., 2024). Although these factors are well documented, many studies examine them independently without linking them directly to measurable outcomes such as resource longevity, which limits

comprehensive understanding of how deterioration interacts with preservation practices.

Current literature provides substantial knowledge on preservation methods, longevity expectations, and deterioration factors, yet there remains limited empirical integration of these elements within a single analytical framework that measures their relationships in a specific regional setting. Many studies focus on describing practices or identifying challenges without testing how preservation efforts influence the lifespan of resources or how deterioration factors moderate this relationship. This gap is particularly evident in studies conducted within Nigerian university libraries, where regional variations in environmental conditions, institutional capacity, and technological adoption require context specific analysis. Lack of empirical linkage between preservation practices, deterioration factors, and measurable longevity indicators restricts the ability of library administrators to design targeted interventions based on evidence. This study addresses this gap through a structured investigation that connects these variables and provides measurable insights into how preservation and conservation practices determine the longevity of information resources in university libraries in North Central Nigeria.

Methodology

This study adopted a descriptive survey research design to generate quantitative data. The design enabled systematic collection of responses from participants across the selected institutions, allowing for consistent comparison of practices, identification of deterioration factors, and statistical examination of relationships among the study variables. The population of the study consisted of 95 library staff drawn from three university libraries, namely Nasarawa State University Library with 25 staff members, Nile University Library Abuja with 12 staff members, and University of Abuja Library with 58 staff members. These participants included professional librarians, para professional staff, and supporting personnel directly involved in managing, preserving, and conserving information resources within their respective institutions. The study

adopted a census sampling technique, where the entire population of 95 staff members was used as the sample size, ensuring complete representation of all relevant personnel involved in preservation related activities. This approach provided comprehensive coverage of preservation practices across the selected libraries and ensured that all responses relevant to the study objectives were captured within the dataset used for analysis.

Data for the study were collected using a structured questionnaire which was designed to obtain measurable responses aligned with the study objectives. Validity of the instrument was established through face and content validation by experts in library and information science and educational management who reviewed the questionnaire for clarity, relevance, and alignment with the study variables. Reliability of the instrument was determined through a pilot test conducted with 20 library staff from Federal University of Technology Minna who were not part of the main study population. Data collection was carried out through direct administration of the questionnaire to all 95 respondents across the three university libraries. Copies of the questionnaire were distributed personally. A total of 95 questionnaires were administered, out of which 90 were successfully completed and returned, representing a response rate of 94.0 percent, which was considered adequate for statistical analysis. Data collected were coded and organized according to the variable structure defined in the selected sections of the instrument, ensuring consistency between data collection and analysis stages. Analysis of data was conducted using descriptive and inferential statistical techniques aligned with the study objectives, where descriptive statistics including frequency counts, percentages, mean scores, and standard deviation were used to summarize responses on preservation practices, longevity indicators, and deterioration factors.

Results and Discussion

Table 1: Preservation and Conservation Practices Used in University Libraries in North Central Zone Nigeria

S/ N	Item Statement	SA	A	D	SD	Mean	Std. Dev	Decision
1	The library carries out regular cleaning and dusting of information resources.	39 (43.3%)	39 (43.3%)	5 (5.6%)	7 (7.8%)	3.22	0.87	Agreed
2	Shelving practices in the library help to prevent damage to information resources.	36 (40.0%)	37 (41.1%)	10 (11.1%)	7 (7.8%)	3.13	0.90	Agreed
3	Environmental controls such as ventilation and lighting are applied to preserve information resources.	37 (41.1%)	34 (37.8%)	10 (11.1%)	9 (10.0%)	3.10	0.96	Agreed
4	Binding and rebinding of damaged resources are regularly carried out in the library.	37 (41.1%)	37 (41.1%)	6 (6.7%)	10 (11.1%)	3.12	0.96	Agreed
5	Fumigation is used to control insects and pests in the library.	31 (34.4%)	39 (43.3%)	8 (8.9%)	12 (13.3%)	2.99	0.99	Agreed
6	The library uses protective coverings for fragile information resources.	31 (34.4%)	35 (38.9%)	13 (14.4%)	11 (12.2%)	2.96	0.99	Agreed
7	Disaster preparedness measures are in place to protect information resources.	36 (40.0%)	32 (35.6%)	12 (13.3%)	10 (11.1%)	3.04	0.99	Agreed
8	Staff are trained on preservation and conservation practices.	47 (52.2%)	27 (30.0%)	9 (10.0%)	7 (7.8%)	3.27	0.93	Agreed
9	Users are educated on proper handling of information resources.	31 (34.4%)	42 (46.7%)	11 (12.2%)	6 (6.7%)	3.09	0.86	Agreed
10	Preservation and conservation policies guide library operations.	39 (43.3%)	30 (33.3%)	14 (15.6%)	7 (7.8%)	3.12	0.95	Agreed
	General Mean					3.10	0.94	Agreed

Source: Field Survey, 2026

The results in Table 1 show that respondents agreed that preservation and conservation practices are actively implemented in university libraries within the study area, as indicated by a general mean score of 3.10. Staff training on preservation and

conservation practices recorded the highest mean value of 3.27, which indicates that capacity development is a strong component of preservation efforts across the libraries. Regular cleaning and dusting of information resources also showed a high mean value of 3.22, which suggests that routine maintenance practices are consistently applied to reduce resources degradation. Binding and rebinding of damaged resources, shelving practices, and preservation policies all recorded mean values above 3.00, indicating consistent agreement on their implementation. Lower mean values were observed for fumigation at 2.99 and use of protective coverings at 2.96, although both still fall within the agreed threshold, which suggests moderate implementation relative to other practices. The results indicate that while a broad range of preservation practices exist, variation in intensity of implementation is evident across specific activities.

Findings from this study show that preservation and conservation practices are actively applied in university libraries in North Central Nigeria, with a general mean of 3.10. Staff training, regular cleaning, shelving practices, and policy guidance recorded high levels of agreement. This pattern supports earlier observations that academic libraries adopt a mix of routine maintenance, environmental control, and staff development to manage their collections. Abdullahi and Lawal (2025) reported that structured preservation systems, supported by trained personnel and basic maintenance practices, improve the management of both print and digital resources. Evidence from this study aligns with that position, especially in relation to staff training, which recorded the highest mean value. Strong emphasis on training suggests that library personnel are aware of preservation requirements and are equipped with basic skills needed for implementation.

Results also agree with Eyo, Nsa, and Nyanibo (2025), who found that preservation practices are present in university libraries but vary in their level of application. Variation is clearly reflected in this study where fumigation and use of protective coverings recorded lower mean values compared to other practices. Such variation indicates that while libraries adopt a broad range of strategies, some practices receive less attention or are not applied consistently. This uneven application confirms

that availability of practices does not always translate into uniform implementation. A difference appears when compared with studies that assume strong and consistent application of preservation strategies. Data from this study shows that implementation is present but not equally distributed across all activities.

Table 2: Extent of Implementation of Preservation and Conservation Practices in Influencing Longevity of Information Resources

S/ N	Item Statement	SA	A	D	SD	Me an	Std. Dev	Decisi on
1	Preservation practices have reduced physical damage to information resources.	32 (35.6%)	37 (41.1%)	9 (10.0%)	12 (13.3%)	2.99	1.00	Agreed
2	Conservation measures have extended the usable life of print resources.	31 (34.4%)	34 (37.8%)	14 (15.6%)	11 (12.2%)	2.94	1.00	Agreed
3	Regular maintenance activities help information resources remain usable over time.	33 (36.7%)	35 (38.9%)	11 (12.2%)	11 (12.2%)	3.00	0.99	Agreed
4	Environmental control practices have slowed deterioration of information resources.	37 (41.1%)	34 (37.8%)	12 (13.3%)	7 (7.8%)	3.12	0.92	Agreed
5	Binding and repair activities contribute to the longevity of information resources.	40 (44.4%)	37 (41.1%)	4 (4.4%)	9 (10.0%)	3.20	0.93	Agreed
6	Pest and insect control practices prevent damage to information resources.	29 (32.2%)	41 (45.6%)	9 (10.0%)	11 (12.2%)	2.98	0.96	Agreed
7	Disaster preparedness practices protect information resources from loss.	30 (33.3%)	41 (45.6%)	8 (8.9%)	11 (12.2%)	3.00	0.96	Agreed
8	Staff compliance with preservation guidelines supports long-term use of resources.	39 (43.3%)	33 (36.7%)	9 (10.0%)	9 (10.0%)	3.13	0.96	Agreed
9	User education on handling resources	45 (50.0%)	31 (34.4%)	6 (6.7%)	8 (8.9%)	3.26	0.93	Agreed

	reduces wear and tear of resources.	%)						
10	Overall, preservation and conservation practices have improved the longevity of information resources in the library.	32 (35.6%)	28 (31.1%)	17 (18.9%)	13 (14.4%)	2.88	1.06	Agreed
	General Mean					3.05	0.97	Agreed

Source: Field Survey, 2026

The results in Table 2 indicate that preservation and conservation practices have a positive influence on the longevity of information resources, as reflected in the general mean score of 3.05. User education on proper handling of resources recorded the highest mean value of 3.26, which shows that awareness among users plays a strong role in reducing wear and extending resource lifespan. Binding and repair activities also showed a high mean of 3.20, indicating that physical restoration contributes significantly to maintaining usability of resources. Staff compliance with preservation guidelines and environmental control practices recorded mean values above 3.10, suggesting that adherence to standards and environmental management support long term preservation outcomes. Lower mean values were observed for overall assessment of improvement at 2.88 and conservation measures at 2.94, which suggests that while specific practices show strong influence, the cumulative effect is perceived at a moderate level. The results show that preservation practices contribute positively to longevity, although variation exists in the strength of their perceived impact across different activities.

Findings further show that preservation and conservation practices have a positive influence on the longevity of information resources, with a general mean of 3.05. User education, binding and repair activities, staff compliance, and environmental control recorded higher influence on resource lifespan. This supports the position of Omoju and Omotayo (2024), who noted that effective preservation practices extend the usability of library resources and reduce the need for frequent replacement. Evidence

from this study confirms that specific practices such as repair and user education directly contribute to maintaining the physical condition and usability of resources over time.

A similar pattern is observed in Mabawonku (2023) and Mesagan (2024), where preservation practices were linked not only to resources survival but also to sustained access and continued use. Findings from this study strengthen that argument by showing measurable influence through mean scores rather than assumed relationships. User education recorded the highest mean value, which indicates that proper handling of resources by users plays a strong role in extending resource lifespan. This result highlights the importance of human behaviour as a determining factor in preservation outcomes.

Despite these positive effects, findings show that the combined impact of preservation practices is only moderate, as indicated by the lower mean value of 2.88 for overall improvement in longevity. This result contrasts with studies that present preservation practices as producing strong outcomes when implemented. A likely explanation from this dataset is that while individual practices are effective, their collective impact is reduced by inconsistency in application and the presence of strong deterioration factors. This finding introduces a more measured understanding of preservation outcomes, showing that effectiveness depends not only on the presence of practices but also on their consistency and interaction with other conditions.

Table 3: Factors Responsible for the Deterioration of Information Resources in University Libraries in North Central Nigeria

S/N	Item Statement	SA	A	D	SD	Mean	Std. Dev	Decision
1	Poor handling of information resources by users contributes to their deterioration.	41 (45.6%)	31 (34.4%)	12 (13.3%)	6 (6.7%)	3.19	0.91	Agreed
2	Rodent damage affects the condition of	37 (41.1%)	37 (41.1%)	9 (10.0%)	7 (7.8%)	3.16	0.90	Agreed

	information resources in the library.							
3	Pest and insect infestation contribute to deterioration of information resources.	28 (31.1%)	42 (46.7%)	13 (14.4%)	7 (7.8%)	3.01	0.88	Agreed
4	Frequent use of fragile resources accelerates their deterioration.	31 (34.4%)	35 (38.9%)	13 (14.4%)	11 (12.2%)	2.96	0.99	Agreed
5	High humidity and damp conditions contribute to deterioration of information resources.	38 (42.2%)	35 (38.9%)	6 (6.7%)	11 (12.2%)	3.11	0.99	Agreed
6	Heat and direct exposure to sunlight affect the lifespan of information resources.	30 (33.3%)	34 (37.8%)	16 (17.8%)	10 (11.1%)	2.93	0.98	Agreed
7	Dust accumulation contributes to the deterioration of information resources.	33 (36.7%)	38 (42.2%)	12 (13.3%)	7 (7.8%)	3.08	0.90	Agreed
8	Aging and acidic paper reduce the durability of information resources.	41 (45.6%)	31 (34.4%)	11 (12.2%)	7 (7.8%)	3.18	0.93	Agreed
9	Poor shelving and inadequate storage facilities contribute to resource deterioration.	31 (34.4%)	39 (43.3%)	6 (6.7%)	14 (15.6%)	2.97	1.02	Agreed
10	Inadequate staff training in preservation contributes to deterioration of information resources.	37 (41.1%)	38 (42.2%)	5 (5.6%)	10 (11.1%)	3.13	0.95	Agreed
	General Mean					3.07	0.95	Agreed

Source: Field Survey, 2026

The results in Table 3 show that multiple factors contribute to the deterioration of information resources in university libraries within the study area, as indicated by a general mean score of 3.07. Poor handling of resources by users recorded the highest mean value of 3.19, indicating that user behavior is a major contributor to resource deterioration. Aging and acidic paper followed closely with a mean of 3.18, which reflects the inherent vulnerability of certain resources to degradation over time. Rodent damage and inadequate staff training also recorded high mean values above 3.10, indicating that both environmental and human resource factors play significant roles in deterioration. High humidity and dust accumulation further contribute to resources degradation, with mean values above 3.00, showing consistent agreement among respondents. Lower mean values were observed for heat exposure at 2.93 and frequent use of fragile resources at 2.96, although both remain within the agreed threshold. The results indicate that deterioration of information resources is influenced by a combination of environmental conditions, resources characteristics, and human factors, all of which affect the longevity of library collections.

Findings on deterioration factors show that multiple elements contribute to the decline of information resources, with a general mean of 3.07. Poor handling by users, aging resources, rodent damage, inadequate staff training, humidity, and dust were identified as major contributors. This aligns with Aliyu, Ogbuiyi, and Olayemi (2023), who identified environmental conditions such as humidity, temperature, and dust as major causes of resources degradation. Evidence from this study confirms that these environmental factors remain significant within the study area. High mean values for humidity and dust indicate that environmental control systems may not be fully effective across the libraries.

Human related factors also show strong influence on deterioration. Poor handling by users recorded the highest mean value, which confirms the findings of Obaidjevwe (2023) that user behaviour plays a major role in the deterioration of library

resources. Inadequate staff training also recorded a high mean value, which suggests that gaps in staff capacity still exist despite the high rating of training under preservation practices. This apparent contradiction indicates that training may be present but not sufficient in depth or consistency to fully address preservation challenges.

Resources related factors such as aging and acidic paper also contribute to deterioration, which supports earlier findings that certain resources are inherently vulnerable to degradation over time. Okorie and Nwosu (2022) noted that both physical and digital resources face risks that affect long term accessibility. Evidence from this study confirms that deterioration is not limited to external factors but also linked to the nature of the resources themselves. Such interaction between environmental, human, and resources factors explains why preservation efforts do not completely eliminate deterioration.

A key contribution of this study lies in its ability to connect preservation practices, deterioration factors, and resource longevity within a single analytical framework. Previous studies often examined these elements separately, without establishing measurable relationships among them. Evidence from this study shows that preservation practices have a positive effect on longevity, but this effect is moderated by the presence of deterioration factors. This integrated perspective provides a clearer understanding of how different variables interact to influence the lifespan of information resources.

Implications for library management are clear. Library administrators need to move beyond the presence of preservation practices toward ensuring consistent and balanced implementation across all activities. Greater attention should be given to practices with lower levels of application such as fumigation and protective covering. Management should also strengthen monitoring systems to ensure that staff comply with preservation guidelines at all times. Emphasis on user education should be

sustained and expanded, since findings show that user behaviour has a strong effect on both preservation and deterioration.

Implications for preservation policy show the need for stronger enforcement and measurable standards. Existing policies appear to guide operations, but variation in implementation suggests that policies are not always translated into consistent action. Policies should define clear procedures for environmental control, disaster preparedness, and maintenance activities, with regular evaluation of outcomes based on indicators such as reduction in damage and extension of resource lifespan. This approach will ensure that policies are not only present but effective in practice.

Implications for resource sustainability show that effective preservation practices can reduce the frequency of replacement and support long term access to information resources. Moderate improvement in overall longevity indicates that more effort is required to achieve sustained results. Addressing environmental conditions, improving staff capacity, and strengthening user awareness will help reduce deterioration and improve the lifespan of collections. Sustainable management of resources depends on balancing preservation efforts with control of deterioration factors.

Findings from this study therefore provide empirical evidence that preservation and conservation practices influence the longevity of information resources, but their effectiveness is shaped by the presence of environmental, human, and resources challenges. This evidence offers a practical basis for improving preservation strategies in university libraries within the study area.

Recommendations

Based on the findings of the study, the following recommendations are proposed:

- Libraries should strengthen user education programmes to reduce poor handling of resources and ensure that users follow proper procedures when accessing resources. Staff compliance with preservation guidelines should be monitored

consistently through internal checks and supervision to ensure that established practices are applied at all times. Attention should be extended to practices that show lower levels of application, especially fumigation and the use of protective coverings, so that preservation efforts remain balanced across all activities.

- Policy frameworks should move beyond general guidance to clear implementation procedures that define specific preservation actions and expected outcomes. Regular evaluation should be introduced using indicators such as reduction in resources damage and extension of resource lifespan to ensure that policies produce measurable results.
- Technical improvement should focus on strengthening environmental control systems to manage humidity, dust, and light exposure within library spaces. Repair and binding units should be expanded to address damaged resources promptly, while continuous practical training should be provided to staff on handling, storage, and preventive preservation methods to improve the effectiveness of preservation activities.

Conclusion

Findings show that university libraries in North Central Nigeria apply a range of preservation and conservation practices such as staff training, routine maintenance, environmental control, and policy guidance. These practices contribute positively to the longevity of information resources, especially through user education, repair activities, and adherence to preservation guidelines. Longevity is therefore not accidental but linked to deliberate actions within library operations. Deterioration remains a persistent challenge driven by user behaviour, environmental conditions, and resources characteristics. Poor handling, humidity, dust, and aging resources continue to weaken the effectiveness of preservation efforts. Evidence from this study establishes that preservation practices and deterioration factors operate together in shaping the lifespan of information resources. Effective preservation improves longevity, but its impact is reduced when deterioration factors are not properly controlled. The study

therefore proves that sustained resource lifespan depends on both strong preservation systems and active management of deterioration conditions.

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