



**FACTORS AFFECTING MANAGEMENT PRACTICES AND THE  
PRESERVATION OF LIBRARY MATERIALS IN TERTIARY INSTITUTIONS IN  
CROSS RIVER STATE**

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**Abstarct**

*The study investigated factors against management practices and preservation of library materials in tertiary institutions in Cross River State, Nigeria. The study aimed to investigate the effects of reformatting on the preservation of library items and assess the influence of staff training on the preservation of library contents. The Open Archival Information System (OAIS) and bureaucratic management theories were used as the foundation for the study. A survey design was used for the study, and 187 respondents were drawn from 6 tertiary institutions in the State. Purposive sampling technique was used. The main instrument for collecting data was the Questionnaire, and data analysis was using simple and multiple regressions. The results indicated that every element investigated has significant impact on how well library materials are preserved in Cross River State higher education institutions. It is therefore recommended that staff participate in frequent training sessions to improve their preservation abilities considering the findings. Furthermore, in order to guarantee the longevity of materials' lifespan, and continuous accessibility for users; reformatting at-risk materials - particularly those that are valuable or stored on unstable media - should be given top priority.*

**Keywords: Library Material Preservation, Management Practices, Tertiary Institutions, Reformatting, Staff Training**

## **Introduction**

Preservation can be viewed as everything that contributes to the physical wellbeing of library materials, and whose major concern is to maintain or restore access to artifacts, documents and records through the study, diagnosis, treatment and prevention of decay and damage. Preservation entails all the managerial and financial considerations like storage, accommodation provisions, staffing levels, policies, techniques, and methods involved in preserving library and archival materials.

Walker (2013) argued that deterioration of library materials is a basic challenge which makes library materials prone to wear and tear, shrinks, cracks, brittles, warps, bio-infestation, discoloration, abrasion, hole, and dust and dirt accumulation. Akussah (2006) stated that almost all library materials are organic in nature, so requires preservation and conservation; and that resources gets damaged or deteriorated because of several groups of factors, some inherent in the materials and others beyond the control of the library. Each type of paper material, glue, plastic that goes into the manufacturing of a book, recording or optical media has its own combination of physical and chemical properties, and a life span. The other factors include all of the conditions surrounding the processing, storage and use of the materials. The significance of preservation of library materials cannot be over-emphasized as it is mainly concerned with the reduction of physical and chemical deterioration of resources. Preservation practices are focused at ensuring that significant library and archival materials, published and unpublished, in all formats are preserved in accessible form for as long as possible (IFLA-PAC China Centre, 2006).

Jordan (2013) describes preservation as an umbrella term for an array of activities, principles, practices, and organizations that ensure the usability, longevity, and accessibility of recorded knowledge. These activities include; general collections, repair, reformatting, environmental

monitoring and control, care and handling of materials, disaster preparedness and recovery, binding and preservation education and training. In preservation, consideration is given to the element that promote and resources, including housing, stable environment, storage system and security against threats and theft, mutilation, defacing and disaster preparedness such as floods, fires, tornadoes, earthquakes and poor handling (Ogunmodede & Ebijuwa, 2013). According to Digital Preservation Coalition (DPC 2008) the term 'preservation' is an umbrella word or concept under which most librarians and archivists cluster all the policies and options for the managing, including conservation treatments of different formats of information material.

### **Preservation of Library Materials**

According to Conway (2010), there are two aspects of preservation of library materials:

1. The first aspect of preservation of library materials is the preventive measures which include all forms of indirect actions aimed at increasing the life expectancy of undamaged or damaged elements of cultural property. It comprises methods of good house-keeping, caretaking, dusting, periodical supervision and prevention of any possibility of damage by physical, chemical, biological and other factors.
2. The other aspect is the curative measures which consist of all forms of direct actions aimed at increasing the life expectancy of undamaged or damaged elements of cultural property. It includes repairing, mending, fumigation, de-acidification, lamination, and other jobs which are required considering the physical condition of the individual document.

One of the best means of preserving the intellectual content of library collections is reformatting, which involves accurate copying of the content of at-risk materials that are on unstable media to new formats in order to provide continued user access; the process includes microfilming, paper-to-paper copying or digitizing. The objectives includes to: reduce wear and tear to originals, save

space; improve access; distribute copies in off-site locations; provide access to more than one user at a time; duplicate certain records for security reasons; (Sahoo, 2004).

### **Disaster Management**

Disaster management in libraries involves prevention, preparedness, response and recovery. There are however so many causes of disaster which will include; natural (hurricanes, floods, earthquakes, volcanic eruptions, and sandstorms.) and man-made (acts of war and terrorism, fires, explosions and water overflow, chemical spill, civil disturbance, construction failure, electrical power failure, gas leak, nuclear disaster, robbery, sewage overflow) (Ishola, 2017). In essence, library custodians should put in place appropriate measures to manage disaster. This justifies why recent events have shown that even when library collection or service may not be at risk, libraries and archives must have prevention and recovery measures in place.

There is also the need to address how often the custodians of library materials are trained in order to equip them with the requisite knowledge needed to prepare effectively and efficiently to manage and preserve library materials. Equally, plans and preparations to avert unforeseen disasters (disaster preparedness) like hurricanes, floods, earthquakes, volcanic eruptions, sandstorms, wars, and terrorism, fire explosions, water overflow, chemical spill, civil disturbance, construction failure, electrical power failure, gas leakage, nuclear disaster, robbery, sewage overflow etc should be put in place.

The question that requires cogent response is “how then will it be possible for library materials to be adequately preserved when there is no preparedness towards such disasters?” However, the only way to necessitate the achievement of this goal is for the personnel to be involved in the management and training on handling of library resources.

### **Statement of the problem**

The library materials are unique in nature due to their information content, and deserve to have maximum preservation in order to retain the information their uniqueness over a long period of time. There is a dearth of valuable publication relating to preservation of library materials in libraries of tertiary institutions in the selected study area because most of these library materials are not properly protected. Despite the challenges encountered in the acquisition of library materials, these libraries do not put in place proper preservation policies. It has been observed, by the authors, that library materials in many tertiary institutions' libraries, particularly in Cross Rivers State, are always badly mutilated, dirty and dusty. Sometimes, information is lost as a result of constant use without proper care, also some of the libraries under study have roof leakages, because they are left without repair, this result to defacement of library materials, and some completely damaged beyond usage. All these are clear indications that the management of these libraries being studied are not using the appropriate practices for effective and efficient preservation of information resources.

Part of the problem equally observed is the need to advocate for appropriate management practices towards preservation of library materials in tertiary institutions in Cross River State to avoid continuous decline of the usefulness of these materials thus leading to inaccessibility, extinction, and reduction in the quality of researches. This implies that if proper preservative measures are not applied it may result to further weakening of the educational standard as limited information resources may not be accessible. It is on these premise that this research sought to examine how reformatting and training of staff impacts preservation of library materials in tertiary institutions in Cross River State, Nigeria. Based on the foregoing, the following research questions were formulated.

### **Research questions**

This research seeks to answer the following questions:

1. How does reformatting procedure impact the preservation of library materials?
2. How does training of librarians influence the preservation of library materials?
3. To what extent do management practices jointly affect the preservation of library materials?

### **Statement of hypotheses**

The following null hypotheses were formulated to guide the study:

1. Reformatting procedure does not significantly impact preservation of library materials in tertiary institutions in Cross River State - Nigeria
2. Training of library staff does not have a significant influence on the preservation of library materials in tertiary institutions in Cross River State - Nigeria
3. There is no significant joint influence of management practices on the preservation of library materials.

### **Literature Review**

#### **Reformatting procedure and preservation of library materials**

Reformatting is a conservation approach that entails transferring library works to stable media in order to preserve their intellectual content, especially for deteriorating, fragile, or valuable items that require limited handling (Gränström, 1998). According to Conway (2010) the cultural heritage preservation community now functions largely within the environment of digital technologies; going further, Conway (2010) juxtaposed the definitions of the terms “digitization for preservation” and “digital preservation” within a sociotechnical environment. Library resources for reformatting includes microfilms, facsimiles, and audiovisual collections (Jordan 2011). Chase (2015) and Lischer-Katz (2022) were of the view that reformatting is required for collections where content retention is critical, and that it is motivated by the desire to preserve intellectual property,

reduce wear and tear, conserve space, improve access, allow simultaneous user access, and create security duplicates.

In the digital age, preservation needs to be given critical rethinking and must be prioritized at the institutional level (Lynch, 2005; Sköld, Kjellman, Orrghen, and Beckman, 2019; and Lewi, Smith, Vom Lehn, and Cooke, 2020). To address the preservation needs of their collections, libraries need to employ strict reformatting methods (Conway, 2010; Routhier Perry, 2014). Every reformatting technique has benefits and drawbacks, enabling complex choices based on the characteristics of the source material, processing capabilities, user requirements, and financial considerations (Troncale, 2000; and Lischer-Katz, 2022).

Digitization serves as a crucial reformatting strategy for preservation, offering improved functionality, location independence, and output options like citation-friendly formatting (Arthur, Byrne, Long, Montori, and Nadler, 2004; Conway, 2013; and Mondejar, Avtar, Diaz, Dubey, Esteban, Gómez-Morales, A., ... and Garcia-Segura, 2021).

Ngulube (2003) looked into how records and archives are preserved and accessed in South Africa. Using a questionnaire survey, interviews, in-person observations, and content analysis of important documentary sources, the elements influencing these processes were determined. The usage of fourteen South African public archive repositories was made. Survey data was employed, but the administrative units of analysis were the archival repositories, not the specific survey respondents. The research findings indicate that the archival holdings' housing and environmental conditions are inadequate. Additionally, there is a lack of awareness regarding preventive preservation measures, inadequate preservation programs, and limited resources for conservation efforts. Furthermore, the organizational structure and funding of archival institutions in South Africa as a whole are also weak. The study concluded that unless the existing situation is reversed,

access to public records and archives in South Africa would diminish (Matlala, Ncube and Parbanath, 2022)

### **Training and preservation of library materials**

Training is "a process of altering the behavior and/or attitudes of employees in a direction to increase organizational goal," according to Ekwelem (2011). Staff training in libraries is essential for preserving treasures for future generations. In any business, training is thought to be the cornerstone to attaining high-quality production (Boomgaarden, 1993 and Zhang, Lin, Zhang, and Madden, 2017).

In their paper titled "The Effect of Librarians' Knowledge and Funding on Preservation and Conservation Practices in Public University Libraries in Nigeria," Osunrinde and Obatikun (2018) employed a purposive sampling technique along with a descriptive survey to select 183 respondents. Descriptive statistics were used for data collection and analysis. The findings showed that staff training and funding levels in the chosen universities have improved, and librarians have a comparatively high awareness of preservation and conservation. It is therefore advised that public universities in Nigeria preserve their libraries and enhance their financing and staff training on preservation and conservation techniques.

Oyewumi (2013) investigated how newspaper usage in Nigerian university libraries was impacted by finance, employee training, preservation, and bibliographic control. The design of the survey inquiry was chosen. In 2010, out of all public universities in Nigeria, 14 federal and 15 state universities were chosen using the stratified random sampling technique. A questionnaire with ( $r=0.65$ ) on serial librarians and ( $r=0.68$ ) on staff training preservation and bibliographic control, as well as ( $r=0.71$ ) on newspaper use, was utilized with 29 serial librarians and 50 users from each of the chosen universities. A sample of two hundred copies of sixteen national newspaper titles



was taken. Six hypotheses were evaluated at the significance level of 0.05 and research questions were posed. Descriptive statistics, Pearson Product Moment correlation, multiple regression, and content analysis were used to the acquired data. The interview disclosed insufficient funding for staff training and newspaper subscription/preservation. The shelf life of university newspapers is influenced by staff preservation training. In order to prolong the shelf life of newspapers and enable prompt access, university librarians should maintain and enhance bibliographic management and preservation of newspapers.

### **Summary of literature review**

According to the relevant literature reviewed for this study, the main obstacles to the effective and efficient preservation of library materials in African archives, libraries, and record centers include a lack of funding, expertise, people, and other infrastructure. In Nigeria, libraries and librarians must thus adapt to these obstacles in order to improve the preservation of information resources—both electronic and non-electronic—and services. Libraries and information centers have started to understand that they may improve their services, justify funding, and better protect information items by utilizing management approaches. Several elements were taken into account in this study, specifically staff training and reformatting.

### **Methodology**

The population of the study is made up of one hundred and eighty-seven (187) librarians from tertiary institutions in Cross River State. The study used a descriptive survey research design. A self-designed questionnaire was utilized as the instrument for data collection in the study, which used a purposive sample strategy.

## **Results**

### Hypothesis One

Reformatting procedure does not significantly impact preservation of library materials in tertiary institutions in Cross River State - Nigeria.

The independent variable is reformatting procedure and the dependent variable is preservation of library materials in tertiary institutions in Cross River State – Nigeria. Simple regression statistics was used in testing the hypothesis at .05 level of significance, the results are presented in table below.

An adjusted R<sup>2</sup> of .838 was obtained from the simple regression analysis in Table 1 on the relationship between the preservation of library items in tertiary institutions in Cross River State, Nigeria, and the reformatting technique. According to this finding, the independent variable (reformatting process) in predicting the preservation of library materials in tertiary institutions in Cross River State, Nigeria, can only account for 83.8 percentage of the variance. The null hypothesis was rejected, and the analysis of variance (ANOVA)  $F = 1866.67$  with a p-value .000 with 1 and 186 degrees of freedom at the .05 level of significance indicated that the reformatting procedure significantly predicted preservation of library material in tertiary institutions in Cross River State, Nigeria, by 83.8 percent.

### Hypothesis Two

Training of library staff does not have a significant influence on the preservation of library materials in tertiary institutions in Cross River State – Nigeria.

Table 2 presents the results of a simple regression analysis conducted at the .05 level of significance on the relationship between training of staff and preservation of library material in tertiary institutions in Cross River State, Nigeria. The independent variable is training of staff, and the

dependent variable is preservation of library materials in tertiary institutions in Cross River State, Nigeria. The adjusted R<sup>2</sup> of .459 indicates that only 45.9 percent of the variance can be predicted from the independent variable (training of staff) in predicting preservation of library material in tertiary institutions in Cross River State, Nigeria. The regression table yielded an F-value of F = 307.38 for the Analysis of Variance (ANOVA), with a p-value of .000, 1 and 185 degrees of freedom at the .05 level of significance. Rejecting the null hypothesis was done. This means that staff training considerably predicted 45.9 percent of the preservation of library materials in tertiary institutions in Cross River State, Nigeria.

TABLE 1

Summary of data and simple regression analysis of the relationship between Environmental control measures and preservation of library material in tertiary institutions in Cross River State – Nigeria

R	R Square	Adjusted R Square	Std. Error of the Estimate			
.538	.289	.287	3.38			
Model	Sum of squares	DF	Mean Square	F	Sig	
Regression	1676.30	1	1676.30	146.59	.000	
Residual	4116.58	185	11.44			
Total	5792.87	186				

Predictors: (Constant): Environmental control measures

Dependent Variable: preservation of library materials in tertiary institutions in Cross River State – Nigeria

TABLE 2

Summary of data and simple regression analysis of the relationship between Reformatting and preservation of library materials in tertiary institutions in Cross River State – Nigeria

R	R Square	Adjusted R Square	Std. Error of the Estimate			
.916	.838	.838	1.61			
Model	Sum of squares	DF	Mean Square	F	Sig	
Regression	4856.30	1	4856.30	1866.67	.000	
Residual	936.57	185	2.60			
Total	5792.87	186				

Predictors: (Constant): Reformatting

Dependent Variable: preservation of library material in tertiary institutions in Cross River State – Nigeria.

TABLE 3

Summary of data and Simple regression analysis of the relationship between training of staff and preservation of library material in tertiary institutions in Cross River State – Nigeria

R	R Square	Adjusted R Square	Std. Error of the Estimate			
.679	.461	.459	2.95			
Model	Sum of squares	DF	Mean Square	F	Sig	
Regression	2669.48	1	2669.48	307.68	.000	
Residual	3123.39	185	8.68			
Total	5792.87	186				

Predictors: (Constant): Training of staff

Dependent variable: preservation of library material in tertiary institutions in Cross River State – Nigeria

### Hypothesis Three

Multiple regression statistics were used to test the hypothesis, and the results are shown in Table 3. Combine the effect of preservation policy, disaster management procedure, environmental control measure, reformatting procedure, and staff training as predictor of preservation of library material in tertiary institutions in Cross River State, Nigeria. The independent variable is availability of preservation policy, disaster management procedure, and environmental control measure, reformatting and training of staff. The dependent variable is preservation of library material in tertiary institutions in Cross River State, Nigeria.

The independent and combined effects of the preservation policy, disaster management protocols, environmental control measures, reformatting procedures, staff training, and library material preservation in tertiary institutions in Cross River State, Nigeria were analyzed using multiple regression in Table 3, yielding an adjusted R<sup>2</sup> of .954. This finding suggests that, when it comes to predicting the preservation of library materials in tertiary institutions in Cross River State, Nigeria, only 95.4% of the variance can be predicted from the independent variables (preservation policy, disaster recovery plan, environmental control measure, reformatting procedure, and staff training). The regression table yielded an F-value of  $F = 1510.06$  for the Analysis of Variance (ANOVA), with a p-value of .000, 5 and 181 degrees of freedom, and a significance level of .05. Rejecting the null hypothesis was done. This finding indicates that the combined impact of a disaster recovery plan, environmental control measures, reformatting procedures, staff training, and preservation policies significantly predicted the preservation of library materials in tertiary institutions in Cross River State, Nigeria, by 95.4 percent. The implication of this study is that the following factors strongly predict the preservation of library material in tertiary institutions in Cross River State,

Nigeria: preservation policy, disaster management method, environmental control measure, reformatting technique, and staff training.

According to a related development, table 10 shows that the five independent variables individually significantly contributed to the prediction of library material preservation in tertiary institutions in Cross River State, Nigeria, but did not contribute when the variables were taken as a whole. These variables include preservation policy, disaster management procedure, environmental control measure, reformatting procedure, and staff training. This is due to the fact that each of their computed t-values of 2.08, -7.08, -1.03, 56.26, and 29.23, along with their corresponding p-values of .039, .000, .302, .000, and .000, were significant at the .05 level of significance, with the exception of the environmental control measures, which, at a p-value of .302, were not significant.

The results indicated that:

1. The safety of library materials is significantly predicted by preservation policies in Cross River State's postsecondary institutions by 11.2 percent.
2. With a projected percentage value of 20.4, there is a substantial correlation between the catastrophe recovery process and the preservation of library items in tertiary institutions in Cross River State.
3. With a projected percentage value of 28.7, environmental control measures significantly predict the preservation of library items in tertiary institutions in Cross River State.
4. With a projected percentage value of 83.3, there is a strong correlation between reformatting and the preservation of library items in Cross River State's postsecondary institutions.

TABLE 4

Summary of data using multiple regression on preservation policy, disaster recovery plan, environmental control measure, reformatting procedure and training of staff as predictor of preservation of library material in tertiary institutions in Cross River State – Nigeria.

R	R Square	Adjusted R Square	Std. Error of the Estimate		
.977	.955	.954	.855		
Model	Sum of squares	DF	Mean Square	F	Sig
Regression	5522.900	5	1104.58	1510.06	.000
Residual	259.676	181	.731		
Total	5782,58	186			

- a. Predictors: (Constant): preservation policy, disaster recovery plan, environmental control measure, reformatting procedure and training of staff
- b. Dependent variable: preservation of library material in tertiary institutions in Cross River State – Nigeria

TABLE 5

Summary of data and independent effects of preservation policy, disaster management procedure, environmental control measure, reformatting procedure and training of staff as predictor of preservation of library material in tertiary institutions in Cross River State – Nigeria.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.913	.187		5.280	.000
Preservation policy	.039	.019	.026	2.077	.039
Disaster management procedure	-.131	.018	-.099	-7.078	.000
Environmental control measures	-.020	.020	-.015	-1.034	.302
Reformatting procedure	1.013	.018	.792	56.263	.000
Training of staff	.595	.020	.404	29.231	.000

a. Dependent Variable: preservation of library material in tertiary institutions in Cross River State – Nigeria.

1. Training of library staff has a significant relationship with the preservation of library materials in tertiary institutions in Cross River State with a predicted percentage value of 45.9.

**Discussion**

The discussion is done hypothesis-by-hypothesis as presented below:

Reformatting and preservation of library materials

The first hypothesis's statistical analysis revealed a strong correlation between reformatting and the preservation of library items in Cross River State's postsecondary institutions. Simultaneously, as libraries depend more and more on "born digital" resources, the commercial and private sectors are focusing more on setting up conditions that allow these resources to be preserved over time.

We must actively participate in the development of long-term solutions to guarantee that



preservation aims are included; libraries cannot wait until these solutions are fully resolved before taking a risk. As such, we need to be ready for ongoing technological change. Instruction and the maintenance of library resources.

The findings of this study corroborate the assertions made by Oyewumi (2013), who made a strong case for staff training in bibliographic management and preservation and its good impact on the shelf life of newspapers at federal and state institutions. This is so because information specialists are qualified to handle the preservation of information resources since it is a specific area of knowledge.

### **Conclusion**

Based on the findings, it was determined that the independent variables of the study had a significant influence on the management strategies used by librarians to preserve library materials. Library resources can be preserved in different ways depending on their format and physical appearance because they are made of a variety of organic materials that eventually deteriorate due to degrading agents and environmental conditions. Thus, it is their only duty to gather and store knowledge for later use.

### **Recommendations**

The study's conclusions lead to the following recommendations:

1. To help the library accomplish its goal, library managers are urged to create a preservation policy that will act as a manual for other librarians working in their libraries.
2. To ensure continuous user access, reorganizing content on unstable media and at-risk materials of high value into new formats should be promoted.
3. Staff members should receive evacuation techniques training, air conditioners should be used consistently, and frequent fire drills and inspections should take place.

4. Setting up suitable climate control systems to uphold preservation requirement.
5. It is recommended that library staff receive adequate training on the correct operation and management of these systems in order to prevent malfunctions and other unfortunate events.

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