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Information Resources Security and Preservation in University Libraries in Imo Sate

Pearl C. Akanwa Ph.D.,

Ogechi N. Okorie

And

Chinedu I. Nwogu

Department of Library and Information Science, Imo State University, Owerri

Abstract

The study aimed at ascertaining the security and preservation of information resources in university libraries in Imo State. A survey research design was adopted. Three research questions jand three hypotheses were formulated to guide the study. The population of the study is 395 professional and paraprofessional staff members of university libraries selected in Imo State. For the fact that the study population is not much, the researcher adopted census or total enumeration technique that enabled the adoption of the entire population as sample. A four-point Likert rating scale and observation checklist were the instruments of data collection. Mean and standard deviation were used in analyzing the research questions, while the entire hypotheses were tested using t-test of significance at 0.05 alpha level. Findings showed that: the security threats to information resources in these libraries include, theft, vandalism, mutilation, natural disasters, cybercrimes, virus/worm attacks, web hacking, etc., and the mean rating score of security threats to information resources in university libraries in Imo State is significant; the information resources in the libraries are to a very high extent vulnerable to security threats and their extent of vulnerability is significant; while preservation methods are to a high extent adopted in preserving information resources in these libraries. The researchers therefore, recommended among others that, librarians should be engaged in training and training and retraining prgrammes on the use of modern gadgets facilities in curbing security threats and preserving information resources.

Keywords: *Information resources, preservation, security treats, university libraries*

1.1 Introduction

University libraries are information hubs established within university environment to support the teaching, learning and research needs of the immediate user community. Emwanta and Nwalo (2013)

consider them as the most important resource centres of their parent institutions (the university), established to primarily support teaching, learning, and research in ways consistent with, and supportive of, the institution's mission and goals. They are

expected to provide diversified information hence Uwaifo cited in Okorie (2018) notes that provision of adequate and timely information to effectively assist in spurring the teaching, learning and research activities of the universities' human intellectual capacity is usually their mandate.

Information is indispensable in human existence as it is an accumulated knowledge derived from all subjects that could help its users to reduce their level of uncertainty. Human and non-human development anchors on it to the extent that it is being linked to a factor of production among scholars. Babu, Singh and Sachideva as cited in Akanwa (2017) conceive information as data put in a meaningful form which is communicated to a recipient, who uses it to make a decision. Information can come from virtually all the areas of human endeavour - the sciences, arts, culture, architecture, craft, politics, and can be packaged and presented in a form that the recipients will understand and disseminated through different media. The medium through which information is received is referred to as 'resource'. Resource is therefore seen as a carrier or medium in which information is stored and presented. The resource where information is presented gives rise to the term information resource(s).

Information resources are the information bearing materials which enable the library to fulfil its goal of satisfying the information needs of its users. University Libraries, in their efforts to provide a broad array of services to meet the needs of their users acquire information resources in various sizes and formats. These resources include print and non-print information materials. Some examples of print resources are books, periodicals, technical reports, conference and technical papers of learned societies and professional associations, etc., while non-print materials are in the form of audiovisuals, personal experiences, magnetic tapes, blogs, internet, websites, listservs, and generations of

requisite equipment for accessing or listening to data stored on them (Omosekejimi, Ijiekhuamhen & Ojeme, 2015). These constitute the library collection that helps in meeting the users' information needs (Nwaogu, 2018). No university library can function effectively without information resources. It is therefore necessary that these libraries acquire information resources that will meet the information needs of their users.

The already acquired information resources need to be secured from illicit handling, improper use, weather condition, intentional mis-shelving, arson, and outright theft. University libraries are concerned about securing their resources, and so should be ready to spend considerable sums in detecting, preventing, and resolving security breaches. Security can have a variety of connotations. It is the state of being free from danger or risk, a situation where an entity or organization is protected against an espionage or attack of any sort (Ochogwu & Abdulrahman, 2018). Similarly, Edonu (2017) defines security as various measures or policies put in place to ensure the integrity, authenticity and longevity of information materials. This means that any measure university libraries put in place to secure their resources for future use amounts to security. Agboola and Aduku (2019) identify security measures to include; installation of modern electronic security systems like monitors and camera, alarm gates and theft detection system, building security by design, appointing security guards, providing property counter, access control, contact police, keyless entry system, security system for hours not open, insurance policy, among others. Over the years, university libraries have consciously engaged themselves in security practices to enable them safeguard their library materials, but this measure will not be enough unless they add the preservation function to it.

Preservation in the library context means taking care of library materials to avoid deterioration. English Folk Dance and Songs

Society (2009) define preservation as the totality of measures for maintaining the integrity of documents and the information contained in them. It includes all the managerial and financial considerations, storage and accommodation provisions, techniques and methods involved in safe guarding documentary materials. There are many factors that pose as threats to information resources. They include climatic conditions such as humidity, aridity and ultraviolet rays, biological agents such as book worms, ants, rodents, and natural hazards such as fire, flood and war. Library resources and materials must not only be preserved but must also be guarded from security threats like theft, mutilation, vandalism, arson, intentional mis-shelving among others. This calls for security consciousness on the part of the library staff and the management.

Currently, there is dearth of valuable information resources, and even the available ones are prone to security and preservation challenges. Thus, in a highly competitive academic environment, like the university, the library being the service agency must ensure that their resources are not only preserved for posterity but also secured from natural and man-made disasters capable of adversely affecting both the library building and information resources stored in them. On this premise, there is need to ascertain these challenges, and how far information resources in our university libraries can be secured and preserved.

1.2 Purpose of the Study

The study examined information resources security and preservation in university libraries in Imo state. Specifically, it aims at:

1. identifying security threats to information resources in the libraries studied;

2. ascertaining the extent information resources are vulnerable to security threats in the libraries studied; and

3. establishing the extent preservation methods are adopted in securing information resources in the libraries studied.

1.3 Research Question

The following questions were posed to guide the study.

- What are the security threats to information resources in the libraries studied?
- To what extent are information resources vulnerable to security threats in the libraries studied?
- To what extent are the preservation methods adopted in preserving information resources in the libraries studied?

1.4 Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

Ho_1: The respondents' mean rating score of security threats to information resources in the libraries studied is not significantly greater than the criterion mean of 25.

Ho_2: The mean score of the extent information resources are vulnerable to security threats in the libraries studied is not significantly greater than the criterion mean of 22.5.

Ho_3: The mean score of the extent preservation methods are adopted in preserving information in the libraries studied is not significantly greater than the criterion mean of 25.

2.1 Literature Review

Empirically, several related literature that looked into some of the key concepts of the study abound. Among them are, Abubakar, Abdullahi, Dewa and Barkindo's (2020), who in their study discovered that theft and mutilation constitutes serious security challenges in the North-East Nigerian University Libraries they studied.

Enyi and Tsegba (2021) in a related study also found that print resources are more vulnerable to security threats; these threats have negative effect on the resources in general, and the level of insecurity in the libraries studied is quite alarming. It was also discovered that various methods were adopted for stealing and mutilation of library materials which include: tearing book page(s) off, removing the jacket cover, and hiding of books under their clothes and in pockets. Similarly, Osunride and Adetunla (2017) in their study concluded that lack of proper preservation and conservation practices in university libraries are the cause of resource loss and deterioration, while Agboola and Aduku (2016) observe that book theft, mutilation of information resources, non-return of borrowed library materials, impersonation, and computer virus attacks were the prevalent threats in all the academic libraries in Niger State. Oyedum, Sanni and Udoakang (2014) also found that book theft, noise-making, mis-shelving and book mutilation were the major security breaches in the libraries.

The study by Ogar (2020) on degradation and preservation practices of information resources in academic libraries in Cross River State revealed that barriers to effective preservation of information resources in academic libraries in Cross River State are significantly high. Udo-Anyanwu and Meziobi (2020) in their study on preservation of information materials for effective service delivery in academic libraries in Imo State also found that the techniques used in preserving information materials in the libraries as rated by the librarians are not significant, and library staff are trained on preservation techniques to a low extent. Furthermore, Mubofu, Mambo and Samzugi (2020) discovered that preservation of information resources through various strategies for future use is inevitable if libraries must continue to share knowledge in printed information resources.

3.1 Methods

This study adopted the survey research design. The population of this study is 395 professional and para-professional staff of the university libraries. For the fact that the study population is not much, the researcher adopted census or total enumeration technique that enables the adoption of an entire population as sample of a study. Modified four-point Likert rating scale and observation checklist were the instruments for data collection. The research questions were answered using mean and standard deviation, while the hypotheses were tested using t-test of significance at 0.05 alpha level. The value of 2.5 is taken as the criterion mean, such that any item with mean score of 2.5 or above is considered as having been agreed upon by or satisfying to the respondents, while any mean below 2.5 is regarded as otherwise. For the checklist, analyses were done based on the responses given.

4.1 Data Presentation and Analysis

Research Question One: What are the security threats to information resources in university libraries in Imo state, Nigeria?

Table 1: Item-by-Item Means and Standard Deviation of the Security Threats to Information Resources in University Libraries in Imo State

S/N	Security threats	$\bar{x}$	?	𝕕
1.	Theft	3.77	0.59	Agreed
2.	Vandalism	3.09	0.79	Agreed
3.	Mutilation	2.80	0.86	Agreed
4.	Fire Hazards	2.68	0.88	Agreed
5.	Natural Disasters	2.76	0.80	Agreed
6.	Cybercrime	2.63	0.87	Agreed
7.	Non return of borrowed materials	2.95	0.80	Agreed
8.	Virus/worm attacks	3.10	0.77	Agreed
9.	Web Hacking	2.91	0.81	Agreed
10.	Illegal borrowing	2.81	0.84	Agreed
		29.51	3.85	

To answer research question one, item-by-item mean and standard deviation have been employed with responses of strongly agree to strongly disagree. Table 1 shows that through item-by-item mean analysis, all the items are accepted as security threats to information resources in university libraries in Imo State except item 1 which is strongly accepted. The security threat in item 1 is theft. The mean response for the items is approximately 3.00 indicating agreement (A) with the item statements, while the mean response for item 1 is approximately 4 signifying strong agreement with the item statement. The observed mean score of 29.51 is greater than the expected mean of 25, and the standard deviation of the individual scores is 3.85. This therefore shows that all the items listed in the table are security threats to information resources in the libraries studied.

Hypothesis One: The respondents' mean rating score of security threats to information resources in university libraries in Imo State, Nigeria is not significantly greater than the criterion mean of 25.

Table 2: Calculated t-test Statistics for Testing the Difference Between the Observed and the Expected Means

t_{Cal}	df	a-value	t - Crit	Decision
23.25	394	0.05	1.646	H_{01} is rejected

Data in Table 2 shows that the t-test statistics computed from the observed and expected means in Table 1 for testing the hypothesis one yielded a t-value of 23.25. When cross-checked against the tabulated t-test statistics of 1.646, the calculated t-test statistics indicates that the observed mean rating score is significantly greater than the expected mean score, even beyond the set probability level of 0.05. Therefore, the mean response on the security threats to information resources in university libraries in Imo state is significantly greater than the expected mean of 25.

Research Question Two: To what extent are information resources vulnerable to security threats in university libraries in Imo state?

Table 3: Item-by-Item Means and Standard Deviation of the Extent Information Resources are Vulnerable to Security Threats

S/N	Information Resources	⍰	☐	#
1.	Textbooks	3.53	0.51	VHE
2.	Projects/Dissertations/Theses	3.58	0.66	VHE
3.	Journals	3.00	0.76	HE
4.	Reference Materials	2.88	0.79	HE
5.	Special collections	2.99	0.78	HE
6.	Rare Materials	3.05	0.78	HE
7.	Newspapers/Magazines	3.14	0.74	HE
8.	Fictions	3.06	0.72	HE
9.	Databases	2.88	0.79	HE
		28.13	**2.47**	

To answer research question two, item-by-item mean and standard deviation have been employed. Table 3 shows that through item-by-item mean analysis almost all the information resources listed are to a high extent (HE) vulnerable to security threats, except the information resources listed as items 1 and 2. These items (textbooks and projects/theses/dissertations) are to a very high (VHE) extent prone to security threats. The mean scores for the two items are approximately 4.00 indicating very high extent, while the mean response scores for the other items are approximately 3.00 indicating high extent. Since the observed mean score of 28.13 is greater than the expected mean of 22.5, and the standard deviation of the individual scores is 2.47, the analysis therefore shows that all the information resources itemized are to a high extent vulnerable to security threats.

Hypothesis Two: The mean score of the extent information resources are vulnerable to security threats in university libraries in Imo State, Nigeria is not significantly greater than the criterion mean of 22.5.

Table 4: Calculated t-test Statistics for Testing the Difference Between the Observed and the Expected Means

t_{Cal}	df	a-value	t - Crit	Decision
45.24	394	0.05	1.646	H_{02} is rejected

Table 4 is a t-test statistics table for testing the difference between the observed and the expected overall means scores. This table has a calculated t-test statistic of 45.24 which is greater than the tabulated t-test statistic of 1.646. The researchers therefore fail to accept null hypothesis two which states that "mean score of the extent information resources are vulnerable to security threats in libraries of federal universities is not significantly greater than the expected mean of 22.5. This signifies that, the mean response on the extent information resources are vulnerable to security threats is significantly greater than the expected mean of 22.5.

Research Question Three: To what extent are preservation methods adopted in securing and preserving information resources in university libraries in Imo State, Nigeria?

Table 5: Item -by-Item Means and Standard Deviation of the Extent Preservation Methods are Adopted in Preserving Information Resources

S/N	Preservation Methods	X	Std	Remark
1.	Provision of adequate racks and shelves	3.53	0.51	VHE
2.	Periodic fumigation of the library	2.74	1.03	HE
3.	Installation of Anti-Virus	2.96	0.75	HE
4.	Binding	3.79	0.55	VHE
5.	Digitization of information materials	1.93	0.93	LE
6.	Provision of fire extinguishers	1.58	0.66	LE
7.	Control of environmental conditions	2.37	1.07	LE
8.	Deacidification	2.29	1.00	LE
9.	Lamination	2.81	0.85	HE
10.	Constant cleaning and dusting	2.89	0.80	HE
		26.90	**3.24**	

To answer research question three, item-by-item mean and standard deviation have been employed. Table 5 shows that through item-by-item mean analysis, the preservation methods listed as items 2, 3, 9, and 10 (periodic fumigation of the library, installation of anti-virus, lamination, and constant cleaning and dusting) are to a high extent (HE) adopted, while items 1, and 4 are to very high extent employed. On the other hand, preservation methods listed as items 5, 6, 7, and 8 are to a low extent adopted. The standard deviation of the individual scores is 3.24.The mean response for the items is approximately 3.00 indicating high extent. However, since the observed mean score of 26.90 is greater than the expected mean of 25, it could be deduced that all the listed methods are adopted to a high extent in preserving information resources in the university libraries studied.

Hypothesis Three: The mean score of the preservation methods adopted in securing and preserving information in university libraries in Imo State, Nigeria is not significantly greater than the criterion mean of 25.

Table 6: Calculated t -test Statistics for Testing the Difference Between the Observed and the Expected Means

t_{Cal}	df	a-value	t - Crit	Decision
11.640	394	0.05	1.646	H_{05} is rejected

Table 6 is a t-test statistics table for testing the difference between the observed and the expected overall means scores. This table has a calculated t-test statistic of 11.640 which is greater than the tabulated t-test statistic of 1.646. The researchers fail to accept the null hypothesis three which states that "the mean score of the preservation methods adopted in securing and preserving information in university libraries in Imo State, Nigeria is not significantly greater than the expected mean of 25". This indicates that the mean score of the preservation methods adopted in securing and preserving information resources in the libraries studied is significantly greater than the criterion mean of 25.

5.1 Discussion of Findings
5.2 Security Threats to Information Resources in University Libraries in Imo State

As presented in Table 1 of this study, the security threats to information resources in libraries are theft, vandalism, mutilation, fire hazards, natural disasters, cybercrime, non-return of borrowed materials, virus/worm attacks, web hacking, and illegal borrowing. The statistical test carried out shows that the

respondents' mean rating score of security threats to information resources in university libraries in Imo State is significant. This shows that there are a lot of factors that pose security threat to information resources in these libraries. This finding is in consonance with Oyedum, Sanni and Udoakang's (2014) research report which revealed that there were numerous security breaches in the libraries they studied. This finding connotes that information resources of university libraries in Imo State will often be destroyed, which may lead to shortage of information resources for the users of these libraries. This is also in line with the findings of Abubakar, Abdullahi, Dewa and Barkindo (2020), Urhiewhu, Emojorho and Jomah (2018) who found that information resources are faced with various kinds of crimes such as theft, mutilation, cybercrime and so on.

5.3 The Extent Information Resources are Vulnerable to Security Threats in the Libraries Studied

The finding of the study revealed that information resources in the libraries are to a very high extent vulnerable to security threats. The finding shows that while journals, reference materials, special collections, rare Materials, newspapers/Magazines, fictions, databases are to a high extent endangered to such security threats as theft, vandalism, mutilation, fire hazards, natural disasters, cybercrime, non-return of borrowed materials, virus/worm attacks and so on, textbooks, projects/dissertations/theses are however, more at risk to security threats at a very high extent. This result shows that even though all the information resources listed are vulnerable to security threats, textbooks and project/theses/dissertation are more prone to security threats. The reason for this may not be farfetched as the students who are the main users of these libraries use these information materials for their class assignments and project/thesis writing. They therefore resort to

stealing or mutilating these materials so that they can use them whenever/wherever they want instead of being confined in the library to do so. Generally, this result indicates that the listed information resources face security threats in the library from time to time. The statistical test carried out revealed that the mean responses on the extent information resources are vulnerable to security threat is significantly greater than the expected mean. This indicates that the extent to which information resources are prone to security threats is significantly more than expected.

The reason these information resources are to such extent vulnerable to security threats could be disputable, whatever the case, it is obvious that the necessary security measures could be lacking in these academic libraries and if nothing is done about it sooner or later there may be only few and much defaced information resources in these libraries. Meeting the information needs of academic library users require putting up a healthy collection of recent and relevant materials that will be useful to the users. When these are lacking, it will discourage the users from using the libraries. These findings gave credence to the result of Enyi and Tsegba (2021), which stated that print resources are more vulnerable to security threats. Also, Abubakar, Abdullahi, Dewa and Barkindo (2020), Urhiewhu, Emorjorho and Omah (2018) found similar situations in the academic libraries they studied.

5.4 The Extent Preservation Methods are adopted in Preserving Information Resources in the Libraries Studied

The finding of the study revealed that preservation methods are to high extent adopted in securing and preserving information resources in libraries. The statistical test carried out revealed that the observed mean score of the preservation methods adopted in securing and preserving information in the libraries is significantly greater than the expected mean score. This

shows that significant preservation methods are adopted in securing and preserving information in the libraries. Some of the preservation methods adopted at a high extent are: provision of adequate racks and shelves, periodic fumigation of the library, installation of Anti-Virus, lamination, constant cleaning and dusting. Moreso, while binding is the only preservation method that is adopted to a very high extent, some preservation methods namely, digitization of information materials, provision of fire extinguishers, control of environmental conditions, and deacidification are not adopted in these libraries. These finding gave credit to the findings of Shafack (2021), and Njoroge, Wambiri and Ogeta (2015) who found that various preservation methods are adopted in securing and preserving information resources in libraries. It also corroborates Mubofu, Mambo and Samzugi (2020) who discovered that preservation of information resources through various strategies for future use is inevitable if libraries must continue to share knowledge in printed information resources. It however contradicts Udo-Anyanwu and Meziobi's (2020) study where techniques adopted for preservation of information materials for effective service delivery in academic libraries in Imo State, were found to be insignificant.

Conclusion

Security and preservation of library resources are age long practices in the university library engaged in to protect information resources. It has been established by this study that; there are numerous threats to information resources in the university library such as theft, mutilation, fire hazards, natural disasters, cybercrime among others; almost all the information resources in the library are vulnerable to security threats; and preservation methods used are binding, fumigation, lamination, constant cleaning and dusting etc. For these university libraries to curb or minimize these threats, it becomes eminent that they should use ICT facilities like Close Circuit Television (CCTV), Electronic Security System (ESS), Biometric Technology, etc.; modern preservation methods such as digitization, deacidification, and control of environmental conditions; and librarians should engage in training and retraining on the use of modern facilities in curbing security threats.

All these suggest that security and preservation of information materials cannot be handled by these libraries alone as some of the gadgets/materials needed to accomplish this task are expensive. They therefore need external intervention to achieve this purpose.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The library authorities and staff should put forth effort to minimize security threats such as theft and mutilation of information resources in the libraries, while also making request to the university authorities for extra help in curbing the more sophisticated ones. To add to this, library staff especially those that come in direct contact with the library users should be exposed to in-service training, conferences, workshops and some online classes on the use of modern ICT facilities in curbing theft, mutilation and other security breaches to information resources. Funds should be made available to the university libraries to help acquire and maintain ICT facilities used for curbing security threats.

2. It was found that information resources in university libraries in Imo state are vulnerable to security threats at a high extent. To this end, security measures should be put in place in these libraries as some of their library resources are at risk of being defaced or stolen outrightly. They should employ security personnel, and library staff should always be conscious of what happens in the library. On the other hand, the state government should assist these university libraries by providing the needed modern ICT facilities such as Closed Circuit Television (CCTV), Radio

Frequency Identification (RFID), Electronic Security System (ESS), Biometric Technology, Burglary Security System, and Barcode which help to minimize library crimes.

3. Even though it was found that preservation methods are adopted to a high extent, however, there are loopholes. Many modern preservation methods are not yet used in these libraries such as digitization, control of environmental conditions and deacidi-fication. The university management should therefore endeavour to make these preservation methods available to help them secure their information resources.

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