

SAFEGUARDING AFRICA'S CULTURAL HERITAGE THROUGH DIGITAL PRESERVATION

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Abstract

Purpose: The purpose of this study was to examine protection of Africa's cultural heritage through digital preservation.

Design/methodology/approach: A mixed method consisting of survey and interview techniques were used to gather both quantitative and qualitative data from selected cultural heritage institutions and national agencies in Nigeria. A self administered questionnaire was used to collect data from Curators, Archivists, and Librarians. A total of sixty five staff from five different cultural heritage institutions participated in the survey. Heads of various libraries who were either Directors, Deputy Directors or Heads of Departments were selected to participate in the qualitative study because they are the decision makers in the various institutions. Data gathered were analysed using descriptive statistics and thematic analysis respectively.

Findings: Major findings of the study indicates that cultural institutions in Nigeria are yet to make serious effort towards digital preservation of cultural heritage. Some of the cultural heritage resources that had been digitally preserved were documents, oral history, folklores, artifacts, gazettes, newspapers, historical materials, and arts and crafts, Findings also revealed that majority of the respondents were willing to allow their digitized collections from their institutions form part of the UNESCO's memory of the world. Although, few percentages of the respondents indicated otherwise. Further findings show that, the National Archives should take the lead in safeguarding Nigeria's cultural heritage.

Implication: The implication of the study lies in its propensity towards propelling a wider global visibility for African culture. The paper therefore suggested for an aggressive move by information professionals and government in safeguarding Nigerian's cultural heritage, and to establish websites that will make such resources visible for wider accessibility.

Originality / Value: The paper was able to go beyond the traditional preservation of information resources by recommending digital preservation of Nigeria's cultural heritage for posterity. It further recommended for the need for cultural institutions in Nigeria to be more focused on digital preservation of cultural heritage.

Keywords: Africa, Cultural heritage, digital preservation, preservation, Nigeria, indigenous knowledge, digital archiving

Paper type: Empirical research.

Introduction

Africa is globally rich in resources of cultural and natural value. The entirety of "the people's cherished arts, customs, festivals, sacred or worship sites, norms, values, ideologies, dress and dress-patterns, traditional monuments and architectures, are cherished which and conserved for their historical, political, educational, recreational and religious significance among others" is known as cultural heritage (Onyima 2016:275). Cultural heritage refers to immaterial and material expressions (Swedish National Heritage Board, 2014). It includes many aspects as language, traditions, historical survivals, art work, archive and artefacts collections, cultural settings and cultural landscapes transmitted from generation to generation. Abid (2006) defined cultural heritage as monuments, cultural and natural sites, museum collections, archives, manuscripts etc. or practices that a society inherits from the past, and intends to preserve and transmit to future generations. All handwritten material, old newspapers, images, monuments, buildings of historical value, artworks, manuscripts, rare-books, paintings,

recorded history documents, songs, dance, oral traditions such as proverbs, adages, lullabies, poems, riddles, incantations, and praise songs e.g. oriki, recitals (ifa verses) of traditional religions are also classified as cultural heritage (Onyima, 2016). This is to say that cultural heritage collections span beyond artefacts (Eluyemi, 2002).

Digital preservation seems to be the most rational method of safeguarding cultural heritage. By definition, it refers to processes and activities that ensure long-term, sustained storage of, access to, and interpretation of digital information (Moseti, 2016). The preservation of the digital cultural heritage seems more like an extension of the tra-ditional tasks of national libraries, archives and museums. Execution of this tradi-tional task in the digital world, however, requires new knowledge and expertise (Gabriela Tama, 2017). Benefits of digital preservation include long term solution to threats such as decay, war, fire and flood and ensuring that valuable and useful resources are available for future generations of scholars and researchers (Karekar and Mudhol, 2014; Moseti, 2016). Yet, threats to cultural heritage are more diverse and calamitous in nature (Gabriela Tama, 2017). It can then be said that digital preservation remains a contemporary trend of access to, and preservation of cultural heritage.

Despite series of concern about preservation of cultural heritage, it seems many cultural heritage institutions in developing countries are still grappling with the demands of the digital century. Scholars such as Mutula (2014) and Ekwelem, Okafor and Ukwoma(2011) attribute reasons such as inadequate infrastructure and inexperienced manpower; weak policy and regulatory frameworks: inadequate government support and limited connectivity and bandwidthas impediments to digital preservation. The narratives in literature point that digital preservation of cultural heritage remains germane in preventing extinction of African culture.

The United Nations Educational, Scientific and Cultural Organisation (UNESCO)'s strongly desire to have Africa's cultural heritage digitally documented and preserved. This is because the largest portion of Africa's cultural distinctiveness is found in their historic monuments and culture. UNESCO in its constitution also made it clear that it is the responsibility of a nation or an organisation to ensure preservation and universal accessibility of the world's documentary heritage; maintain, increase and diffuse knowledge through conservation and protection of the world's inheritance which comes in form of books, works of arts and monuments of history and science. Nigeria has been found to have keen interest in contributing to the memory of the world pioneered by UNESCO. This article therefore ascertained the digitisation initiatives in Nigerian cultural heritage institutions and national agencies. The study provides highlights on resources that have been digitised so far, the extent of conformity with best practices in digital preservation, and who among these national institutes should take the lead in giving Nigeria the footing in UNESCO's memory of the world.

Research Objectives

The objectives of the study are to:

- find out if the institutions are making any visible effort towards digital preservation of cultural heritage, and what cultural heritage resources that have been digitally preserved
- 2. determine the criteria guiding selection of these cultural heritage resources for digitisation
- 3. ascertain if the selected cultural heritage institutions have policies guiding digital preservation of cultural heritage
- 4. determine who among these cultural heritage institutions should take the lead if at all, in Nigeria's contribution to memory of the world pioneered by UNESCO

Literature Review

The prevalence of film, photography, microfilm, microfiche and storage under controlled environment was the norm for preservation of cultural heritage prior to the advent of ICTs. Nowadays, many cultural heritage institutions worldwide have adopted ICTs for preservation of heritage material. Examples include provision of access to Chinese cultural heritage in digital form by the National Digital Library of China and preservation of monuments of historical importance and ancient sites in India by the Archaeological Survey of India under the auspices of the Ministry of Culture (Bakhshi, 2016). This implies that cultural heritage institutions in any nation must play prominent role in digital preservation.

The survival of a document is no longer dependent on how long the medium carrying it will last, but on the capacity of that document to be transferred from one medium to another as situation demands. Digitization process involves photographing or scanning a material and transferring it to a computer. This process is capable of lessening the wear and tear on the original material, because it gives a digital replica to distribute. It is worthy of note that material stored in a digital manner has the possibility to reach even more users if it is disseminated on the web, without users having to travel to a library, archive or museum to view the material.

Brungs and Wyber (2008) wrote that in recent years, the importance of cultural heritage has been addressed through high level policy documents. For example, the United Nations 2030 Agenda for sustainable development underlines the importance of safeguarding cultural heritage. Ekwelem, Okafor and Ukwoma (2011) pointed that preservation of cultural heritage resources is essential to sustainable development. It enhances cultural continuity of human history and nourishes social cohesion that enables one to understand the past while contemplating for the future. Onyima (2016) maintained that preservation of Nigerian cultural heritages is capable of promoting collective consciousness in terms of unity, oneness, nationalism and fostering peaceful co-existence among Nigerians.

Gabriela (2017) posits that the need to preserve the cultural heritage of a nation is an urgent call considering the disappearance of heritage in whatever form. UNESCO in its constitution made it clear that, it is the responsibility of a nation or an organization to maintain, increase and diffuse knowledge through conservation and protection of the world's inheritance which comes in form of books, works of arts and monuments of history and science. It is however noteworthy that digitisation is bringing new life to cultural heritage and its aim is to ensure preservation and accessibility of the world's documentary heritage. The essence is to broaden opportunities for creation, communication and sharing of knowledge among general public. Nowadays, many cultural institutions around the world digitise their collections for different purposes which may be for preservation, dissemination or to improve access, or a mix of all these purposes.

To digitally preserve cultural heritage resources, a description of such resources is required using metadata standards. Some of these metadata standards according to Bakhshi (2016) include CDWA (Consortium for the Computer Interchange of Museum Information), VRA Core (Visual Resource Association) and METS (Metadata Encoding and Transmission Standard). From the viewpoint of Zhang and Gourley (2009) and Borgman (2000), every institution needs to build up its own digitisation selection criteria. What is important is that all selection criteria are explicit and discussed with all parties and documented (Minerva, 2004). Moreover, a decision should also be taken on which material to digitise when embarking on any digital preservation initiative.

UNESCO in its "Memory of the World" programme, aims to assist countries in preserving and digitising documentary heritage which meets the selection criteria for world significance. This is as a result of its recognition of the need to create a world register of important cultural heritage. The main principles of the Memory of the World programme are to preserve documents and collections, and also to improve access to them. A survey on digitisation and preservation was carried out by UNESCO/IFLA based on these two concepts.

Digitisation can be very useful in enabling access to content in valuable or rare document that cannot be widely available because of their delicate/indispensable Through nature. digitisation, the original source is put through less wear and tear and it is easier to keep for the future. Digitisation not only give users access to existing cultural heritage collections but also helps institutions to actively create, shape, encode and interpret, and re-contextualize such collections (Dahlström et al., 2012).When collections are digitised, it becomes easier to disseminate to users and it is likely to bring more attention and interest to the original source because it will make people aware of its existence which is positive for cultural institutions. This implies that digitisation is an interesting and an important part of safeguarding Africa's cultural heritage.

Interest in application of digitisation and image processing started to appear amongst cultural institutions in the 1980s. It began with in-house and small-scale projects of limited scope and was performed by individual institutions that were experimenting with the application of the newly available technologies even though the technologies were still very expensive then. Towards the end of the 80s, large-scale projects were launched by different institutions, even pilot projects with the aim to examine how appropriate the digital technologies were to handle large volumes of information.

Some of the first digitisation projects took place at the National Archives and Records Administration in Washington, USA and at the Archivo General de Indias in Spain. Library of Congress in Washington, USA was a pioneer library and experimented with digitising their printed library material (Terras, 2008). During its 32nd General Conference in 2003, UNESCO adopted the Charter on the Preservation of the Digital Heritage. The Charter urges member states to take legal, economic and technical measures to safeguard their heritage. The European Union has also encouraged the member states to digitise cultural heritage for the purpose of preservation and accessibility. Sweden National Library as well as many other national libraries in Europe cooperates with the Europeana digital library.

Many developed countries have digitally preserved their cultural heritage through diverse initiatives. For instance, in Europe, there is the DigiCULT, Bibliotheque Nationale (Loebecke and Thaller, 2005) and in Czech Republic, Rosenblum (2008) notes that the National Library is working on many projects to preserve cultural heritage. Australia's cultural heritage collections are available as audio recordings and its management is by National Library of Australia (Bradley, 2014). In India, Bakhshi (2016) observed that digital preservation of cultural heritage resources is implemented through the Indira Gandhi National Centre for the Arts (IGNCA), an autonomous centre under Ministry of Culture.

In Egypt, Urgola (2014) reported on preservation of historical collections.

Mutula (2014) evaluated the status of digital heritage preservation in Eastern Africa. The study found a rising awareness and increasing responsibilities for digital heritage preservation. He alluded that this is as a result of support for international agencies, civil societies and governments. The study expounds that, institutions with responsibility for heritage management were poorly equipped to function in this role effectively. He concludes that efforts should be directed towards the enactment of digital heritage preservation strategies and policies, as well as deploying cloud and grid computing technologies at institutional and national levels to address the storage needs of digitisation, and to overcome software and hardware technological obsolescence. Bakhshi (2016) concludes that digital and multimedia technologies open up new opportunities for digital preservation.

In Nigeria, Balogun and Adiei (2018) observed that most of the cultural heritage collections are not presently digitized, despite its benefits to the institution and the public. Traditionally, libraries have the responsibilities to collect, preserve and disseminate knowledge and cultural treasures. Okerulu (2002) states that libraries are important part of the social, cultural and educational history of any nation. The National Library of Nigeria is the apex library in the country and it is empowered by law to collect, preserve and disseminate Nigeria's cultural heritage. According to the provisions of Section 4(1) of National Library Act, publisher of every book published in Nigeria shall within one month after publication deliver at his own expense three perfect copies of such book to the National Library of Nigeria. In the case of State government publication, a deposit of ten copies is required while the Federal Government or its agencies should deposit 25 copies of such publication. A copy of each document deposited with the National Library of Nigeria must be sent to the University of Ibadan for preservation (National Library of Nigeria Act) Laws of the federation of Nigeria Act 2004, CAP N56).

Methodology

A mixed method approach consisting of survey and interview techniques was used to gather data for this research. The population of the study comprised staff of cultural heritage institutions in Lagos state and the FCT. A total of 66 staff from five different cultural heritage institutions participated in the survey and seven heads of various institutions who were either Directors, Deputy Directors or Heads of Departments were selected to participate in the qualitative study. This category of staff was purposively selected because they were considered as key informants directly involved as decision makers in the various institutions. These heritage institutions were: National Library of Nigeria HQ., National Museum, Onikan, CBAAC, National Archives, Ibadan, Arts and Culture Department and FCT Archives and History Bureau. A self-administered survey questionnaire was used for the collection of quantitative data from respondents. Items in the questionnaire were both open and close ended in nature. Qualitative data was obtained Table 1. Response Rate

from staff who were either Directors, Deputy Directors or Heads of Departments in the institutions. Out of the 65 copies of the questionnaires administered, 50 were returned, representing 77% return rate. However, only 46 were found useful for analysis. Quantitative data was analysed using SPSS to obtain descriptive and inferential statistics. Qualitative data obtained from open-ended questions in the questionnaire and the interview were analysed thematically.

Results

Table 1 below shows the response rate from each institution. The highest number of respondents 26 (56.5%) was from the National Archives Ibadan. This was followed by CBAAC with 6 (13%) while, from Arts and culture Department, there were 5 (10.9%) respondents. The least number of respondents were from the National Museum, FCT Archives & History Bureau and National Library of Nigeria (HQ) with 3(6.5%) respondents respectively.

| Institution | No of questionnaire administered | No of questionnaire returned | Percent |
|--------------------------------|--|------------------------------------|---------|
| National Archives (Ibadan) | 45 | 26 | 56.5 |
| National Museum, Onikan | 3 | 3 | 6.5 |
| National Lib of Nigeria (HQ) | 3 | 3 | 6.5 |
| Arts and Culture Department | 5 | 5 | 10.9 |
| FCT, Archives & History Bureau | 3 | 3 | 6.5 |
| CBAAC | 6 | 6 | 13.0 |
| Total | 65 | 46 | 100.0 |

There were 26 female respondents and 20 male respondents which reveals that more female respondents participated in the survey. The ages of the respondents varies with 26 (56.5%) of the population were between the age range of 41-50 while 9(19.6%) respondents were within the age of 30-40. Also, 8(17.4%) respondents were

51-60 and few of the respondents with 3(6.5%) were aged 60 and above. The highest educational qualification possessed by respondents was PhD with 19(41.3%) while SSCE was the least educational qualification. Five males and two females participated in the interview and majority possessed master's degree.

Safeguarding Africa's Cultural Heritage through Digital Preservation: Who Takes the Lead?

| Demographic characteristics | | Freq. | Percent |
|-----------------------------|---------------------------|-------|---------|
| Gender | Male | 20 | 43.5 |
| | Female | 26 | 56.5 |
| Age (years) | 30-40yrs | 9 | 19.6 |
| | 41-50yrs | 26 | 56.5 |
| | 51-60yrs | 8 | 17.4 |
| | Above 60yrs | 3 | 6.5 |
| Highest Educ. Qualification | Ph.D | 2 | 4.3 |
| | Master | 19 | 41.3 |
| | Bachelor's degree | 15 | 32.6 |
| | Diploma Certificate | 2 | 4.3 |
| | SSCE/GCE | 7 | 15.2 |
| Designation | Senior Archivist | 15 | 32.6 |
| | Archivist I | 10 | 21.7 |
| | Archivist | 5 | 10.9 |
| | Chief Archivist Assistant | 9 | 19.6 |
| | Others | 7 | 15.2 |

| Table 2: Demographic Profile of Respondents |
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|--|

The study sought opinions from respondents on whether their institutions were making any visible efforts towards digital preservation of cultural heritage collections. Majority of the respondents 25(54.3 %) attested negatively to the effort made towards digitization of cultural heritage by their institutions, while 21(45.7%) of the respondents affirmed positively of seeing visible effort being made by their institutions. However, the interview responses showed that a bit of effort is being made by the cultural heritage institutions on digital preservation of their collections.

The study required respondents to provide more detail on collections that have been digitally preserved in their institutions. Most respondents 29(63.0%) were of the opinion that collections on language have been digitally preserved. More than half of the respondents 27(58.7%) indicated that collections on art and craft, and culture 24(52.2%) have been digitally preserved. Digital preservation of artwork, artefacts and traditional cuisine are yet to be digitized as indicated by majority of the respondents. Interview, responses showed that digital preservation of FESTAC collections is ongoing at CBAAC, at the National Library, Abuja, and effort is ongoing on digital preservation of artefacts, Gazettes, Newspapers and historical materials, while digitization of documents is in progress at FCT Archives & History Bureau. At the Arts and Culture Department, interviewees note that digital preservation of oral history, folklore, herbal medicine practice, arts and craft is in progress. At the National Museum, Onikan, findings revealed that their collections are not yet digitised due to lack of space to carry out digitization exercise and unavailable resources. As regards criteria guiding selection of resources for digitisation, respondents were of the opinion that selection criteria that are of utmost importance are to reduce damage, subject area and historical value. This agrees with the findings of IFLA/UNESCO survey on digitisation and preservation.

| Items | Yes | | No | |
|--|-------|---------|-------|---------|
| | Freq. | Percent | Freq. | Percent |
| Culture | 24 | 52.2 | 22 | 47.8 |
| Language | 29 | 63.0 | 17 | 37.0 |
| Artwork | 9 | 19.6 | 37 | 80.4 |
| Buildings | 18 | 39.1 | 28 | 60.9 |
| Books | 23 | 50.0 | 23 | 50.0 |
| Objects (masquerades attires, warriors' costumes, face | 20 | 43.5 | 26 | 56.5 |
| masks) | | | | |
| Songs | 20 | 43.5 | 26 | 56.5 |
| Folklore | 23 | 50.0 | 23 | 50.0 |
| oral history | 18 | 39.1 | 28 | 60.9 |
| Craft | 27 | 58.7 | 19 | 41.3 |
| Indigenous textile | 14 | 30.4 | 32 | 69.6 |
| Artefacts | 9 | 19.6 | 37 | 80.4 |
| Exhibits | 12 | 26.1 | 34 | 73.9 |
| Original manuscripts | 14 | 30.4 | 32 | 69.6 |
| Traditional cuisine | 7 | 15.2 | 39 | 84.8 |
| Monuments | 9 | 19.6 | 37 | 80.4 |

Table 4: Criteria guiding selection of resources for digital preservation

| Criteria | Responses | | | | |
|----------------------------------|----------------|---------|---------------|---------|--|
| | Very Important | | Not Important | | |
| | Frequency | Percent | Frequency | Percent | |
| Historical value | 26 | 56.5 | 20 | 43.5 | |
| Cultural value | 14 | 30.4 | 32 | 69.6 | |
| Reduce damage | 26 | 56.5 | 20 | 43.5 | |
| Save space | 27 | 58.7 | 19 | 41.3 | |
| Importance to scholars/ tourists | 24 | 54.3 | 22 | 45.7 | |
| Subject area | 23 | 50.0 | 23 | 50.0 | |

From the interview, it was discovered that most of the cultural heritage institutions in Nigeria that participated in the study were aware of the UNESCO/PERSIST (2016) guideline for the selection of resources for long-term preservation. The institutions includes the National Library of Nigeria, CBAAC, and Arts and Culture Department. Respondents were of the opinion that the digitisation exercise in their various institutions was not in conformity with best practices. Large percentage of the Interviewees gave positive response on their conformity with best practices on digital **Table 5:** Conformity with best practices in digital preservation. One of the respondent states that they were actually doing their best to meet up with standards in advanced countries. In his words, he said: "Our performance in the area of conformity with best practices is highly encouraging"Another respondent states that: "As regards conformity with best practices, we are doing excellently well"

The disparity in the findings from the quantitative study and the interview could be attributed to communication gap between the management team and the staff of the various institutions.

Table 5: Conformity with best practices in digital preservation

| | Frequency | Percent | |
|---------------|-----------|---------|--|
| Compliant | 20 | 43.5 | |
| Not complaint | 26 | 56.5 | |
| Total | 46 | 100.0 | |

With regards to availability of policy on digital preservation of cultural heritage by institutions, majority of the respondents 29(63%) claimed

not having such policy while 6(13%) claimed to have. 11(23%) of the respondents do not even

know about any policy on digital preservation on cultural heritage.

Interview analysis on policy on digital preservation revealed that, majority of the cultural heritage institutions, with the exception of the National Museum have policies guiding digital preservation. Some of the clauses in the policies from the various cultural heritage institutions include ownership; compliance with OAIS; collaborative relationship; funding and technical know-how; coverage; role and responsibilities; challenges and risk associated with digital preservation; and compliance with intellectual property rights. The policies however seem unknown to staff who are actually involved in the digitization exercise. As regards who should take the lead among these cultural heritage institutions in pioneering Nigeria's contribution to memory of the world pioneered by UNESCO, respondents were of the opinion that they were able to identify collections that were suitable for inclusion in memory of the world register and that they have created a web-accessible database to digitised collection of cultural heritage. There is also the existence of co-operation between them and other institutions in promoting digital preservation of cultural heritage. The study also sought the opinion of respondents on willingness of their institution in allowing their digitised cultural heritage collection form part of the UNESCO's memory of the world. Majority of the respondents 28(60.9%) were willing to allow their digitised collections form part of the UNESCO's memory of the world. Though few 5(10.9%) of the respondents were not sure if their institution will allow its collection to form part of memory of the world. Results from qualitative analysis above support the quantitative result as more respondents answered in the affirmative that their institutions will allow their digitised collection form part of UNESCO's memory of the world. However, respondents from some of the institutions were not in the affirmative. One of them said: "..... here, we guide our collections jealously and for security reasons, we may not be willing to release them to form part of UNESCO's memory of the world".

Table 6: Willingness to contribute to UNESCO's memory of the world

| Statement | | Yes | | No | | Not sure | |
|---|-------|---------|-------|---------|-------|----------|--|
| | Freq. | Percent | Freq. | Percent | Freq. | Percent | |
| Identification of collection of world significance suitable | 23 | 50.0 | 15 | 32.6 | 8 | 17.4 | |
| for inclusion in the memory of the world register | | | | | | | |
| Creation of a web-accessible database to digitised | 31 | 67.4 | 12 | 26.1 | 3 | 6.5 | |
| collection of cultural heritage institution in Nigeria | | | | | | | |
| Co-operation with institutions in promoting digital | 23 | 50.0 | 15 | 32.6 | 8 | 17.4 | |
| preservation of cultural | | | | | | | |
| Willingness on the part of your institution to allow the | 28 | 60.9 | 13 | 28.3 | 5 | 10.9 | |
| digitised cultural heritage collections form part of the | | | | | | | |
| UNESCO's memory of the world | | | | | | | |

In area of visibility of digitized resources, the study revealed that 31(67.4%) were visible within the institutions. While 15(32.6%) were accessible through the website. Furthermore, findings from the open ended question showed that respondents could not provide the URL to the resources.

Majority of the respondents were of the opinion that the National Archives should take the lead

in digital preservation of cultural heritage. However, the qualitative analysis showed that any of these heritage institutions could take the lead. In fact, one of the respondents suggested that libraries could also be at the forefront in ensuring digital preservation of cultural heritage. Another respondent said it is the responsibility of the government to ensure that cultural heritage collections in Nigeria were digitally preserved.

| Institution | National | National | National | Ministry Of Arts | |
|---------------------|----------|----------|----------|------------------|--------|
| | Library | Museum | Archives | And Culture | Total |
| National Archives | 0 | 0 | 2 | 1 | 3 |
| (Ibadan) | 0.0% | 0.0% | 66.7% | 33.3% | 100.0% |
| National Museum | 0 | 1 | 2 | 0 | 3 |
| | 0.0% | 33.3% | 66.7% | 0.0% | 100.0% |
| National Library of | 1 | 3 | 1 | 0 | 5 |
| Nigeria | 20.0% | 60.0% | 20.0% | 0.0% | 100.0% |
| Arts and Culture | 1 | 0 | 2 | 0 | 3 |
| Department | 33.3% | 0.0% | 66.7% | 0.0% | 100.0% |
| FCT, Archives & | 0 | 1 | 4 | 1 | 6 |
| History Bureau | 0.0% | 16.7% | 66.7% | 16.7% | 100.0% |
| CBAAC | 0 | 0 | 2 | 1 | 3 |
| | 0.0% | 0.0% | 66.7% | 33.3% | 100.0% |
| Total | 6 | 11 | 26 | 3 | 46 |
| | 13.0% | 23.9% | 56.5% | 6.5% | 100.0% |

Table 7: Opinion of respondents on who should take the lead in safeguarding Nigerian cultural heritage through digital preservation

Discussion of findings

The findings of this study indicate that digital preservation of cultural heritage is still a neglected activity. Zaid, Abioye and Olatise (2012) noted that preservation of cultural heritage is an overwhelming task for heritage institutions in Nigeria, and as such there was reliance on foreign institutions and international organisations for the education and training of heritage personnel. This seems to be before the introduction of ICTs into preservation of resources. Now that the technicalities of preservation require being digitally savvy, heritage institution in Nigeria should reactivate the link they used to have with those international organisations and even new ones. Scholars such as Alegbeleye (2007) argued that the issue of preservation of heritage collections is a national issue and should attract national and concerted effort from government at all levels. The findings of this study imply that there is a need to devote to strategic planning and policies on digital preservation. There is a need for policy to support the digital preservation exercise. The policy is to act as the authority for those undertaking digital preservation in terms of articulating roles and responsibilities both within the organisation and any external parties (e.g. contractors, depositors / donors of records). The policy may also go further to define the coverage of the

digital preservation activities including the broad categories of records in its content. According to Information policy team, The National Archives, UK, the policy should be kept under constant review during implementation to ascertain its relevance and effectiveness.

The study has revealed current practices in preservation on one hand and access or global visibility for heritage resources in Nigeria. One of the criteria for inclusion of resources in the IFLA/UNESCO Directory of Digitised Collections is that those resources must be in digital format, and must be available for consultation over the Internet. There is a need for museum in Nigeria to awaken interest on digital preservation. Kurin (2007) argue the most appropriate type of organisation to take the lead role in safeguarding cultural heritage collection is the museum. Museums are cultural preservation institutions by their very definition and they also have staff in diverse areas and have respect for traditions and culture. Tsinopoulou (2017) submit that there is need for collaboration between organisations in safeguarding cultural heritage.

Conclusion and Recommendations

Without mincing words, institutional commitment is the key to safeguarding Africa's cultural heritage through digital preservation. The paper concludes with a suggestion for an aggressive move by information professionals and government in safeguarding Nigeria's cultural heritage. The study recommends that cultural heritage institutions in Nigeria and elsewhere should not only focus on digital preservation of their resources, but should also give thought and effort to establishing of a website that will give access to such collections.

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