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Preservation and Accessibility of Audio-visual Records in Tanzania's Television Broadcasting Companies

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Abstract

This study investigated the preservation and accessibility of audio-visual records in television broadcasting companies in Tanzania. Specifically, it set out to determine how audio-visual records are preserved in television broadcasting companies; to establish how audio-visual records in television broadcasting companies in Tanzania are accessed and to examine challenges to effective preservation and accessing of audio-visual records in television broadcasting companies in Tanzania. The literature reviewed and the findings from pilot study indicate that many AV records are produced by individuals, television companies and other entities in both rural and urban Tanzania. They also indicate that there are intervening factors such as resource constraints, technological incompatibility, inadequate infrastructure, inadequate skills, environmental factors, and unclear policies the hinder access to and use of audio-visual records. Since the preservation and accessibility to audio-visual records is challenging due to intervening factors, it is recommended that approaches used (passive preservation and active preservation) to preserve audio-visual records be constantly reviewed to identify strategies that could be used to address challenges as they arise in order to improve preservation and accessibility of the relevant records.

Keywords: Audio-visual records, Records Preservation, Records Accessibility, Tanzania

Introduction

Preservation of audio-visual (AV) records in many countries today has turned into a pressing challenge due to continuous AV production and advancement in its technology (Schuller, 2008). In its broadest sense, records preservation is a process of protecting records against chemical, electronic and physical deterioration so as to increase the life-span of specified material (Pearce-Moses, 2005). AV records need attentive care since

they contain irreplaceable documents of historical and cultural significance and are essential for the preservation of the world heritage and all its multicultural aspects over generations (Matangira & Ngulube, 2010). In fact, preservation of AV records goes hand-in-hand with the ability to access them when required, which is also a daunting task. Institutions dealing with records and archives management all over the world are struggling to find strategies that would ensure the continuous integrity of the original AV records so that they become available and accessible for posterity.

Television broadcasting companies are among the key stakeholder institutions for AV records. In the course of their daily TV programming, TV broadcasting companies create and produce AV records, use them and finally keep them for reference and reproduction in future programmes. This study investigated the current status and practices of AV records preservation and accessibility in the selected Tanzania television broadcasting companies with a view to identifying challenges faced in the preservation, accessibility and use and, ultimately, recommending strategies that could be used to address those challenges.

Audio-visual Records production

According to Pearce-Moses (2005), audio-visual records consist of a series of related images combined with sounds, embodied in different carriers, accessed by the use of machines or electronic equipment. Their creation or production also requires electronic equipment. The basic equipment for AV production is the Video Camera Recorder (VCR) which can capture the image and motion of the object together with the sound of the object and its surroundings. The VCRs capture moving images in different storage equipments depending on the type and technology of the camera. The prominent camera storage equipments are the video tapes. Due to technological advancements, there are cameras today which use electronic chips and hard disks instead of video tapes.

In many cases, the audio-visual records undergo further editing process before their release to the viewers. In editing, the unwanted video clips are removed so as to remain with the most relevant scenes depending on the particular programme. The editing involves the process of manipulation of the captured audio-visual content so as to make a desired message. Texts and graphical works are added and also clips from other videos are superimposed on the captured video so as to improve the picture image and simplify the audio-visual content for the viewers to understand. The edited AV records are preserved on video tapes, Compact Disks (CDs), Digital Video Disks (DVDs), Computer Hard Disks, External Hard Disks and in the Web ready for the viewers to access and use them.

Worldwide Audio-visual Records Preservation and Accessibility Practice

The practice of preservation and accessibility of AV records in many countries in the world bear similar difficulties (Schuller, 2008). Due to their technical nature, audio-visual records tend to be difficult to handle, preserve and access compared to other records. They are produced in different formats and carried in a variety of storage devices. And the equipment used to access them is of different types.

Abankwah and Ngulube (2012) assert that AV records are delicate, sensitive to light, heat, humidity, fire, water, biological pests, dust, mould as well as atmospheric pollution. Thus, their preservation poses serious challenges. Accessing AV records is also challenging due to the steady development in new audio-visual formats and the increase in new types of storage and accessible devices. These challenges bring about incompatibility chaos between the AV formats, AV storage devices and the equipment used to access them (Rauch, 2004; Schuller, 2008).

Many of the developed countries and international organisations strive to safeguard hours of AV records produced in different times of their history so that they are accessible, retrievable and utilisable whenever necessary. As time passes, the

technology changes, the new AV formats, storage devices and accessing equipments are innovated. The AV records in the proceeding technology are not compatible to the prior ones (Hedstrom, 1998). In response to these threats, developed countries and organisations such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO), and the International Association of Sound and Audio-visual Archives (IASAA), have policies and protocols on the audio-visual preservation to encourage other nations to safeguard the audio-visual heritage for future access (Evans, 2002).

In Africa, especially the East and Southern African Regional Branch of the International Council of Archives (ESARBICA), most archival institutions are struggling to develop their audio-visual collections. Although no country in the ESARBICA region has legislation specifically for audio-visual materials, a few countries such as Zimbabwe, Malawi, Zambia, Lesotho, Mozambique, Kenya, Botswana and Swaziland are considering different strategies for audio-visual preservation in their national archival institutions (Matangira & Ngulube, 2010).

Developing countries grapple with issues of inadequate technology, infrastructure, skills and environmental factors as well as lack or incomprehensive policies on audio-visual and other digital records preservation (Garaba, 2010; Matangira & Ngulube, 2010). Thus, there a need for strategies that would help preserve audio-visual records in these countries.

Digital Preservation and Accessibility of Audiovisual Records

Digital preservation is a series of management policies and activities necessary to ensure the enduring usability, authenticity, discoverability and accessibility of content over the long-term (CHO, 2011). It is an ongoing process which is useful in audio-visual records preservation and access to those records. Millar (2009) argues that there

is no end point to digital preservation, unless a digital object ceases to be considered worth preserving.

Preservation of Audio-visual Records

A tremendous increase in production and dissemination of audio and video records by radio, television and the World Wide Web, catalysed the need to preserve them for future generations (Abankwah & Ngulube, 2012; Matangira & Ngulube, 2010; Millar, 2009; Rauch, 2004). Millar (2009), argues that the purpose of archival preservation is to ensure that records remain accessible over time as authentic and reliable evidence in future. As Rauch (2004) contends, if the task of digital preservation is not solved adequately, the future will be called the "Age of Oblivion". National Records and Archives Management Policy of Tanzania (NRAMP) of 2002 attests to the importance of creating appropriate records and archives storage facilities and conditioning so that records and archives are always protected and accessible when required (POPSM, 2011). The urgent need for the preservation of audio-visual records for current and future access in Tanzania is demonstrated by the speed of increase in their production by a number of existing and emerging audio-visual companies in the country.

Approaches in Preservation of Audio-visual Records

Millar (2009), Schuller (2008), Pearce-Moses (2005) and Rauch (2004) assert that two approaches, namely passive preservation and active preservation are used to preserve audio-visual records. Both approaches aim to safeguard the integrity of the original records. Another scholar Kyong-Ho (2002), who carried out a study on the state of the art and practice in digital preservation, outlines the techniques for the preservation of digital information, which include technology preservation, preservation emulation, information migration, and encapsulation. These scholars agree in common that the record integrity is protected either by preserving intact the original record, or by recreating the essence of the object using new and different technologies from those originally used.

Passive preservation

According to Millar (2009), passive preservation aims to keep the original digital object intact without changing the technologies used to store or process it. This process often involves one of the following three actions: refreshing data, replication or emulation. However, in most organisations, refreshing, replication and emulation are usually used as short-term measures for preserving electronic records during their active use.

Kyong-Ho *et al*. (2002) refers to passive preservation as technology preservation which involves preserving an original application programme, operating system software, and hardware platform. According to him, this strategy faces various challenges including space, maintenance, and costs, for example, equipment ages and breaks, documentation disappears, vendor support vanishes. Moreover, there could be problems with the storage medium as well as the deterioration of the equipment and issues with the portability of the resource.

Refreshing data

Refreshing is the process of copying data from one medium to another of the same type (Pearce-Moses, 2005). Rauch (2004) explains that during the process of refreshment,

the bits of data remain intact as the purpose of refreshment is to replace data in one medium with a copy that is sufficiently the same and easily accessible.

Millar (2009) opines that periodic refreshment of electronic records onto new media is inevitable given the continuous changes in computer storage media, as is frequently done by most of the archival and records institutions. Olatokun (2008) asserts that, if the digital medium deteriorates or becomes obsolete before the digital information has been copied into another medium, the data could be lost.

Replicating data

Replication is a similar process to refreshment, but with one difference that the location where the record is stored will likely be different when a file is replicated (Pearce-Moses, 2005). Millar (2009) emphasises the fact that replication helps to ensure the survival of information, by storing the files in several different locations.

Emulation

Millar (2009) describes emulation as the process of using one computer device or software programme to imitate the behaviours of another device or programme, thereby obtaining the same results when accessing or using digital objects. Types of emulation do include Software Emulation, Operating System Emulation and Hardware Emulation. According to Pearce-Moses (2005), emulation aims to preserve the original software environment in which records were created and maintain the functionality of older software (generally operating systems) and hardware so as to recreate a digital document's original functionality.

However, during emulation the bits of data are replicated and become not exactly as they were before, and the loss of information during this process is highly possible (Rauch, 2004). Millar (2009) criticises the emulation process from its practical aspect

on the ground that it can be difficult to emulate the exact behaviour of an old system, especially when it is not fully documented. Despite its weaknesses, Millar supports the use of this process.

Active preservation

Active preservation of electronic records seeks to ensure the continued accessibility of electronic records over time by actively intervening in how records are stored and managed (Pearce-Moses, 2005). Millar (2009) recommends that, whenever possible, the audio-visual and other electronic records archiving institutions should consider developing active preservation approaches as a priority for long-term preservation of electronic records. Migration—as the process of translating data or digital objects from one computer format to another format to ensure users can access the data or digital objects using new or changed computing technologies—is the most widely used method of active preservation (Millar, 2009). Pearce-Moses (2005) describes migration as the process of moving data to a different format, especially data from an obsolete format to a current one. Although during migration the bits of data may change which can risk the integrity of the data, migration is, arguably, the common method many archival institutions apply in transferring or converting records into digital storage repositories as part of a formal preservation programme (Matangira & Ngulube, 2010; Millar, 2009; Pearce-Moses, 2005; Schuller, 2008).

Challenges to Effective Audio-visual Preservation and Accessibility

Abankwah and Ngulube (2012), Wright (2011), Schuller (2008) and Rauch (2004) argue that audio-visual preservation and accessibility have a set of challenges that archival institutions in most countries have to contend with. Ngulube and Tafor (2006), in their cross-sectional study of the ESARBICA region, found that records management have been compromised by the acute shortage of resources, lack of defined management standards and inadequately trained staff. Other challenges are posed by the

infrastructure and technology incompatibilities. In this regard, Schuller (2008) argues that format incompatibility of storage devices poses challenges to the effective storage and retrieval of the digital documents. Studies by Hedstrom (1998) and Wright (2011) affirm this fact by considering accessibility challenges between newly-innovated technologies and the old ones. In this study, they trace the continuous change in digital storage formats of recorded audio from wax cylinders to cassette tape in the 1970s, the first optical format for audio (CD) in the 1980s and finally in the late 1990s to computer files. Rauch (2004) assert that, although the long-term preservation of digital objects have become increasingly relevant, the increasing amount of digitally-created data, the increasing range of file formats and the steady development of additional file format features make preservation a daunting task.

Abankwah and Ngulube (2012) argue that environmental issues also pose a challenge to the preservation of the audio-visual records. These include light, heat, humidity, fire, water, biological pests, dust, mould and atmospheric pollution. Tafor (2001) and Ngulube (2002) allude to the weak institutional capacity and the absence of comprehensive records management policies, guidelines and practical standards as the main causes of archival underdevelopment in Africa.

Wright (2008), in his brief paper, mentions some challenges of audio-visual records accessibility in media broadcasting institutions, indicating that that many audio-visual collections in these media houses have a tradition of being closed, or open only for professional or commercial access as opposed to conventional libraries which have a tradition of unified access: union catalogues based on standardised metadata, to provide an 'any book, anywhere' service. The author points out that much of the AV content is held by institutions with no history of working with libraries and which might prefer to limit access to their content.

Challenges to records preservation and accessibility are not unique to audio-visual records. Ndenje-Sichalwe *et al.* (2011) examined the current state of records management practices in fostering the issues of accountability in the implementation of the Public Service Reform Programme (PSRP) in Tanzania and revealed that the current records management practices in the government ministries are accorded low priority with no specific budget allocations, lack of support from senior officers, lack of records management policies and low levels of training for personnel. Studies by Kitalu (2001) and Sekiete (2004) also revealed similar challenges to the effective preservation and management of public records in developing countries. These observations indicate that there are overarching challenges to the processes of audio-visual preservation in archival institutions.

AV Technology Advancement and Records Productivity in Tanzania

Tanzania's AV records productivity, like in other countries, has highly been affected by advances in AV technologies. The Media Council of Tanzania (MCT, 2003) asserts that the advancement in AV technologies in both developed and developing countries has brought about a significant impact on the AV production industry in Tanzania. It has opened doors to the mushrooming of the audio, film and video making companies including the private and public TV broadcasting companies in different parts of the country. The mushrooming of these companies has resulted in an increased production of AV records (MCT, 2003; TCRA, 2014).

According to the Tanzania Communications Regulatory Authority (TCRA, 2014), the advancement and innovations in AV technologies today have facilitated the availability of modern video making facilities and equipment in both rural and urban Tanzania. Digital video cameras, variety of mobile telephones and Closed Circuit Television (CCTV) cameras are not only available at reasonable prices but are also owned by many individuals who easily document AV contents regarding socio-economic activities in

their lives. As such, there are many films and videos of different content and context produced in Tanzania by individuals and by both private and governmental entities.

Television broadcasting companies play a pivotal role in AV records productivity due to the nature of their responsibilities. They produce and use hours of AV contents in their daily working programmes. The abundant produced and used AV records need to be preserved and made accessible when needed. Most of the media companies including the television broadcasting companies have special sections or archival rooms which contain used audio and audio-visual programmes in different types of carriers and formats (Corey, 2013). Schuller (2008) points out some types of carriers used in keeping AV records to include tapes, CDs, DVDs, and computer hard disks. He also lists the formats for AV records to include the MPEG, AVI, WMV and MP4.

Preservation and Accessibility of Audio-visual Records in Tanzania

In Tanzania, like in other developed and developing countries worldwide and in Africa, some efforts have been made to promote the culture of preserving records (though not specifically audio-visual records). Some measures and guides on the storage and protection of records have been stipulated in the National Records and Archives Management Policy of Tanzania (NRAMP) of 2002 in a bid to create appropriate records and archives storage facilities and conditioning so that records and archives are always protected and accessible when required (POPSM, 2011).

Like in other developing countries, Tanzania faces a number of challenges in matters related to records preservation. Problems of inadequate records management technology, inadequate infrastructure, insufficiency funds, inadequate skills and knowledge on records management, environmental factors and lack or incomprehensive policies on records management are also rife in many of the institutions in the country (Ndenje-Sichalwe *et al*, 2011; Sekiete, 2004).

Efforts on Audio-visual Records Preservation and Accessibility in Tanzania

Some efforts have been made in Tanzania to promote the culture of preserving audio recordings. The British Library (2012) reports to have digitised, catalogued and preserved a number of music which was previously recorded on magnetic reel to reel tapes. Corey (2013) also reports on the project called 'Reviving the Radio Tanzania Archives: digital preservation, development, and cultural heritage' organised by Corey in 2010s that was aimed at digitising and promoting the music and political speeches available in the Tanzania Broadcasting Corporation (TBC) recorded in Tanzania from the early 1960s to the mid-1980s.

Policy Issues on Records Preservation and Accessibility in Tanzania

The National Records and Archives Management Policy of Tanzania (NRAMP) spells out several efforts that have made to improve the records and archives management following the enactment of the NRAMP Act of 2002 aimed to create appropriate records and archives storage facilities and conditioning so that records and archives are always protected and accessible whenever required (POPSM, 2011).

The measures include providing training to records management assistants for public offices; formulating, producing and distributing registry procedures, manuals and records retention and disposal schedules to public offices; undertaking construction of national and zonal records centres; building capacity of the records and archives management personnel in public offices; introducing records and archives management courses at both the diploma and certificate levels; and establishing the scheme of service for the records management cadre.

Regardless of these initiatives, some challenges have persisted, including inadequate records storage facilities; low priority accorded to records and archives management;

emergence and use of information and communication technologies; unawareness of legal and regulatory framework; limited skills and low capacity of registry staff; unclear standards and procedures; poor records plan and co-ordination mechanism; and vague ethics of public servants. Consequently, the 2011 NRAMP came up with the following objectives: to ensure reliable, accurate and complete evidence-based decision, action and transaction of communication; to ensure accessibility of public records and archives as long as they are needed to support the legitimate information needs of the government and citizens; to promote public trust, optimise information sharing and re-use and reduce duplication in accordance with legal and policy obligations; to ensure safety and security of private records; and to acquire and preserve records of enduring value to the nation from public offices, private institutions and individuals (POPSM, 2011) to improve management processes (preservation, access to and use) or records, including records produced by TV broadcasting companies.

Conclusion

The efforts made by UNESCO, IASAA and ESARBICA countries and Tanzania through NRAMP of 2002 in audio-visual archiving and preservation of records have not wiped out the problems associate with audio-visual records preservation and accessibility. In fact, the status of audio-visual records preservation and accessibility in Tanzania remains hazy, given the existing global technological challenges in digital and audiovisual preservation. A lot of AV records are produced by individuals, television companies and other entities in both rural and urban Tanzania but factors such as technical expertise, technology, security, policy, and resource constraints continue undermining the effective preservation of these AV records. Under these circumstances, there is a need to address these problems to improve the preservation and access to AV records as desired.

Recommendation

Generally, the study found the preservation and accessibility to audio-visual records to be dogged by a horde of challenges. These challenges are due to intervening factors such as resource constraints, technological incompatibility, inadequate technology, inadequate infrastructure, inadequate skills, environmental factors, and unclear policies on audio-visual preservation. As such, the study recommends that the status and practice of audio-visual records preservation and accessibility be reviewed constantly to establish strategies that could be used to overcome the challenges as they emerge to improve the preservation and accessibility of relevant records in line with the changing environment.

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