DIGITIZING AFRICAN LOCAL CONTENT: THE WAY FORWARD

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ABSTRACT

This paper sought to expound on how the African local content can be preserved and transmitted to the larger world via a successful digitization process by providing answers to four major questions as follows: What is local content? Why do we need to digitize our local content? How do we digitize local content? And how do the digitized local content help in preserving and transmitting African literary and cultural heritage to the world at large? Furthermore, recent initiatives at digitizing and transmitting local content were highlighted while constraints to digitizing and transmitting African local content were also identified. However, the paper concluded and made recommendations on how Nigeria can join the rest of Africa in improving and promoting our local content in the Global Information Infrastructure (GII), which is seen presently to be minimal.

KEYWORDS: Digitization, Indigenous knowledge, Information Communication Technology, Culture, Internet, Database, etc.

INTRODUCTION

Digitization has been defined as the conversion of analogue media to digital form. When analog information is digitized, it is changed to the binary codes, which can be processed and displayed, by computers and other equipment. (Fatoki, 2005). Materials that may be considered for digitization are: printed texts, original manuscripts and archives, maps, museum artifacts, rare books, images, fragile documents, audio / video materials, etc.

The digitization of cultural and literary heritage materials is commanding considerable popularity internationally and countries' input to the Global Information Infrastructure (GII) grows by the second. In Nigeria, there are as yet very few digitization projects and as such Nigeria's input in the Global Super Highway remain negligible. It is also a well-known fact that the process of digitization is littered with pitfalls, traps and abandoned projects (Alegbeleye, 2005).

This work is an attempt at projecting the importance of digitizing Africa's Local content. What then is this "local content"?

Defining local content is a major challenge. This is because one person's "local content" is another's 'global content' depending on the perspective adopted. However, three definitions of local content have been put forward in this study.

Firstly, local content has been seen to be the expression of the locally- owned and adapted knowledge of a community – where the community is defined by its location, culture, language, or area of interest (Global Knowledge Partnership, 2005).

Secondly, Ballantyne (2002) defined local content as "using Information Communication Technology (ICTs) to create, adapt and exchange local information, the content of a community". According to him, it includes global content that has been transformed, adapted and assimilated into the community's knowledge base. To him, Local content can be exchanged and shared, locally or globally, in various formats, packages and media.

Thirdly, Pakenham (2002) wrote in her work that "local content" refers not only to original research and the expression of local knowledge. It also refers to the complex process of access, interpretation, synthesis and repackaging of local and global knowledge.

Hence, for the purpose of this work, digitizing local content can be seen as the use of innovative ways (e.g. ICTs and other media) to convert, express, access and exchange local knowledge (in machine readable form) in both local and foreign languages thereby increasing the accessibility of the information / knowledge for both the community and the people outside the community, thereby enhancing respect for the local culture and identity.

RATIONALE FOR DIGITIZING AND TRANSMITTING AFRICAN LOCAL CONTENT

The following reasons, among others, have been posited by authors in the past for digitizing and transmitting local content: Fatoki (2005) asserted that Digitization has the potential to make Africans producers of indigenous information and knowledge not passive consumers of imported information; enables Africa to export information and knowledge and to be proactively involved in the development of the Global Information Infrastructure (a seamless web of communication networks, databases and consumer electronics that will put vast amounts of information at users' finger tips). Digitization also provides African researchers and scientists with access to information on Africa generated from within the continent. It enables African researchers and scientists to collaborate with peers around the world and promote African cultural heritage.

Apart from preservation, access, according to the International Federation of Library Association (IFLA) (2002) is the greatest benefit of digitization. A material that used to be available to a few people who are in physical contact with the item could be accessed by anyone, anywhere, anytime of the day when the images are available through the Internet or CDs, thereby giving enhanced visibility and publicity to the work.

Also Uche (2006) maintained that we need to keep safe and in sound state all our cultural and literary resources because they are sources of reference, research, illustration, effects, etc. Also, their re-recording may be impossible as certain actions and events cannot be reacted. Furthermore, some materials are rare and probably the only ones in the country hence the need to preserve them for posterity. In addition, digitization can help in creating an enhanced economic benefit to the nation through sales as may become relevant of some of these information resources for a sustainable development.

PROCESSES AND TOOLS FOR DIGITIZING AND TRANSMITTING AFRICAN LOCAL CONTENT

According to the IFLA guidelines on digitization (IFLA, 2002), the following has been outlined as a requisite for any digitization project:

i. HARDWARE:
a. Computer:
This is required to save the texts or images captured either by a scanner or a digital camera and to publish the finished work to the Web or on CD-ROMs. A computer will require the following capabilities for digitization:

    i.   A fast processor;
    ii   A higher Random Access Memory(RAM);
    iii   Monitor (21" monitor preferable);
    iv.   A large Hard disk drive;
    v.   CD-ROM Writer.

b. Scanners:

These are for capturing two-dimensional objects. Here the scanner will be attached to the computer so that the image so captured can be saved in the computer.

c. Digital / Film / Video Cameras:
Digital cameras are really the best way to capture three-dimensional objects. They are very simple and easy to use since neither films nor laboratories are necessary for developing the photos. Images are visible almost immediately and may be duplicated at no extra cost. Digital images can be loaded directly into your computer by plugging the Digital camera into a computer before you take pictures, if not, there may be need to get a large memory card for the digital camera. Or, photograph can be taken with a 35mm film camera after which the resulting slide is scanned. Whichever of the two cameras chosen should be used with a copy-stand to achieve best results. Also, Video camera films (e.g. Camcorder) can be easily copied onto CD-ROMs and be latter viewed using either computer or via Internet.

d. Laser Printer (600dpi):
This can be either coloured or black and white. They are used for print-outs which may be necessary for quality assurance.

e. A Power Management Unit (UPS) is essential in areas that experience uneven electrical power supply.
ii. SOFTWARE:
This will come with your computer, scanner and digital camera; it will allow your computer and equipment to interact. The software captures your digital images from the scanner or digital camera and help both in saving them into the computer and in publishing them to the Web or a CD-ROM.

Examples of software are, Digital Imaging Software (e.g. Adobe Photoshop), Optical Character Recognition (OCR), Scanner Software (e.g. Silver Fast) and Digital Image Management Software (e.g. Greenstone Digital Library) (IFLA, 2002 and Fatoki, 2005).

iii. CD-ROMs:
The finished digitized work can be saved or published in Compact Discs for either near-line or off-line access or for further distribution and / or sales.

iv. INTERNET CONNECTIVITY:
This can be done via a Modem or an Ethernet network card attached to a computer. This is necessary in publishing the captured image / document already saved into the computer to the Web. In carrying out this task, the highest grade of computer (e.g. Intel Pentium 4 / Pentium M) and latest Operating System (e.g. Window 2003 / XP) is highly recommended. Also, the services of an Internet Service Provider (ISP) may be needed for connectivity, in addition, a website may be designed or acquired for permanency and easy access to the digitized information and to control the property rights as may be deemed necessary.

DIGITIZING AFRICAN LOCAL CONTENT
Developing countries are daily 'invaded' by foreign ideas and values that undermine or overwhelm local cultural heritage and economic livelihood of the people. Most formal content and communication 'channels' in these countries help to push 'external' content into local communities. This can be seen in television programming, in advertising, in the spread of global brands, in classrooms using imported curricula and examinations, in the use of foreign languages in schools and universities, in the lowly status of local languages on the Internet, in research, in the dissemination of 'reliable' scientific information, and even in the reliance on foreign technical assistance. Counter - efforts to push local content on to global stages, such as African film, African research publications, 'African voices' in the media, or the e-trading of crafts face an uphill struggle (Ballantyne, 2002).

However, local content does not flow of its own accord; it needs owners or originators with the motivation to create, adapt or exchange it. As well as vision, these pioneers need to have the creative, technical and people skills to transform an idea, an artifact, knowledge, belief, value, norm, art, moral, law, custom, language, human institutions, technology and tradition into something that can be disseminated or exchanged. Moreover, since few of us have all the necessary capacities to create and communicate content, partnerships are essential to get the job done (Nwogu and Akinde, 2006).

Despite the tremendous surge in ethnic portals, there is only a few Internet-content generated by ethnic communities themselves or organized around their unique cultural interests and practices. Hence, the need to share and celebrate the uniqueness of cultures in Africa via a powerful tool like the Internet can never be over emphasized. However, very little of the information on the Internet presently is directly suitable for dissemination to poor communities as it is. It needs to be repackaged to ensure local suitability and relevance; also very little information proceed from these African communities to the outside world, hence, the need for digitizing Africa's local content for an increased access can never be over-stressed.

Hence, for ICT to be an empowerment tool as proposed in the Millennial Developmental Goals (MDGs) and conveyor of locally relevant messages and information, it has to provide opportunities for local people to interact and communicate with each other and the outside world, expressing their own ideas, knowledge and culture in their own languages, so that poor people can shape decisions that affect their lives, grasp economic and social opportunities and deal with misfortunes and disasters.

Also, the research output, of African scholars, which serve as our literary heritage is also another major source of local content whose digitization must be urgently addressed. Visible progress is already made in this regard as will be discussed latter in this paper.

However, with the tools enumerated above, much of this invaluable traditional / indigenous knowledge can be saved, documented, improved upon, digitized and transmitted not only for the communities inside or outside a particular country but also for the future generations.

INITIATIVES AT DIGITIZING AND TRANSMITTING AFRICAN LOCAL CONTENT AFRICA JOURNAL ONLINE (AJOL)
The use made of the site shows that it is now a leading source for those wanting access to information and research on Africa. African journals now have a greater visibility. Users of the service, on the whole, are academics and researchers. Once registered, the user can access the Table of Contents (TOCs) and Abstracts of Journals (by browsing through titles or searching by keywords) and link to full text or request document delivery. The 'take up' of the document delivery option has been, to date, minimal. Access to the TOCs and Abstracts is free. A charge is made for document delivery. The service relies on donor funds for its continuation. This is because of the fact that African journals are currently not strong. Therefore it will take a long time before they themselves are able to pay for a service like AJOL. Also many of them do not have the technical knowledge to upload their own TOCs and Abstracts or to publish electronic full text. (Rosenberg, 2002).

 AJOL is published by the International Network for the Availability of Scientific Publications (INASP) based in United Kingdom.

DATABASE OF AFRICAN THESES AND DISSERTATION (DATAD):
This is the most comprehensive reference for postgraduate theses and dissertations holdings from universities and other higher institutions in Africa. The record which is published both online and in compact discs by the Association of African Universities headquartered in Ghana covers all subject disciplines. The 2005 CD covers over 20,000 records from 13 institutions in 11 African countries.

OPEN KNOWLEDGE NETWORK (OKN):
This came out of the call for a national and international effort to support local content and local applications creation. It was developed to create a new network comprising existing knowledge

centers in developing countries. Its aim is to promote the creation of local content and its exchange as widely as possible (Armstrong, 2002).

CENTRE FOR POPULAR MEMORY, UCT, SOUTH AFRICA
There are concerns that are specific to the African continent which are not being addressed on a global level. Through the Centre for Popular Memory's (CPM's) audiovisual archive and the collection of narratives, these concerns are explored with relation to digitization procedures, storage mediums/ customized digital repositories, and virtual archives in a global context (Meyer, 2004).

These, among others, are some of the recent initiatives at digitizing African content.

CONSTRAINTS TO DIGITIZING AND TRANSMITTING AFRICAN LOCAL CONTENT
The Threat of Cultural Imperialism:
There is a growing concern regarding the use of African content in worldwide forums. The most radical or conservative of them is the 'cultural imperialism' driving new technologies (Henriot, 1998). There is a view that Africa is being decolonized in the virtual environment, as international technology partners are looking to provide technical expertise for the "globalizing" of African content. African partners for the most part do not control the servers/ programmes or technology that houses their content.

Intellectual Property Rights issues:
There are further concerns over Intellectual Property rights and Community Property of African songs, narratives and content management. What has happened in the past is that funded (African) partners go into rural areas to record traditional narratives, but never return those rights to the community. This is not confined only to visual culture, as Indigenous Knowledge Systems (IKS) are being recorded or networked and then patented outside of the community that traditionally used them. As a result of this, it was found that any other content / knowledge in some of these communities were hoarded, concealed and held onto with force in spite of the lip service being paid to agreements on cultural exchanges on the internationapl scene. Sharing with the wider community, outside of family and friends, was rare, as they say "Knowledge is power" (Meyer, 2004).

Problem of standardization:
Some cultural elements can be so rudimentary in their locations that they would require further refinement to make them more meaningful to the global audience.

Lack of local information:
Perhaps the most far-reaching barrier of all is the scarcity of the kind of information that users and content creator want, mostly – local information about their communities.

Literacy barriers:
The vast majority of information on the Internet is written for an audience that reads at an average or advanced literacy level. Majority of people in developing countries do not have the reading and writing skills necessary for functioning in everyday life.

Language barriers:
Today, an estimated 87% of document on the Internet are in English while it was also found that nearly 70% of all websites are in English (One World International, 2005). Yet, English is not the primary language of the Africans; as a result, they are often left out of the benefits the Internet offers and the local content and views are thus crowded out. In other words, language can be a barrier to learning, hence, the proposal for a local content created and transmitted in multiple languages.

Other constraints are:
Lack of finance, requisite capacity and access to infrastructural facilities; high cost of telephony and charges by Internet Service Providers (ISPs); slow connections and hangings; on-line piracy / hacking and invasions of viruses, worms and macros from the Internet, CD-ROMs and hardware

(which can lead to corruption of files and sometimes outright system breakdown) have been seen, among others, as the constraints to digitizing and transmitting African local content.

CONCLUSION AND RECOMMENDATIONS:
CONCLUSION
This work started by introducing the topic and proceeded by defining the concept of local content. The rationale for digitization and the processes and tools necessary for digitizing Africa's local content were highlighted. How the digitized local content can be used as a tool for preserving and transmitting our cultural and literary heritage is a major issue discussed by the paper while some initiatives at digitizing and transmitting Africa's local content were highlighted. Furthermore, the various constraints to digitizing and transmitting Africa's local content were identified.

In conclusion, we need to realize that a culture that never makes or fails to make its contribution, no matter how infinitesimal, to the "ever spiraling vortex" of human civilization, can be said to be idly basking in the backwaters of cultural evolution. It is, therefore, not enough for a people to be 'proud' of their culture, the more important issue is what contributions, aspects of a people's culture make to human civilization. There is an urgent need for a more realistic, thoughtful and honest involvement in cultural and literary advancement through the utilization of modern technologies.

THE WAY FORWARD
Since ICTs are merely a tool for development, social and economic development is not possible without the meaningful and sustained involvement of the people who are mostly affected by developmental changes, hence the challenge is to fire-up people's imaginations, tap into their potential to make real difference and engaged them as central players in issues concerning their own development.

Though, it has been found that poverty and lack of opportunity have remained the underlying causes of a range of developmental problems, however, access to information and education are vital resources required to alleviate poverty and build a foundation for a long term changes in ways that make people active participants in their own empowerment.

Also, national policies should be made that will address issues like the standardization and rise in status of local languages by supporting their use in education, on the Internet and in research.

In addition, investments should be made in digitization and digital libraries. This can be achieved by co-operative digital facilities both at national and / or regional levels. International assistance can also be sought from established digitization centers in developed countries.

Finally, beyond the digitization projects funded by donor agencies, the onus is on African Librarians, Archivists and other information professionals to identify, digitize, promote and help in transmitting items or materials that are of cultural, literary, historic, research, scientific and indeed commercial value to the outside world. This would go a long way to empower Africa in the global economy.

Nevertheless, we need to remember that the conquest of our natural environment, with a view to improving on our social and economic circumstances is the unifying force of the human race, a force that should defy differences in language, colour, social and geographical locations!

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