

NORTH-SOUTH CO-OPERATION IN ELECTRONIC INFORMATION ARCHIVING: THE EXPERIENCE OF THE INSTITUTE OF MARINE SCIENCES ZANZIBAR.

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ABSTRACT: Accessing scientific information electronically is picking up in the developing world. More academic institutions are being connected to the Internet, hence increasing their access to scientific information. Unfortunately, most locally collected information is not systematically available. The information is either kept by the scientists themselves or deposited in local libraries in report forms, unrecorded and known only to the locals. In order to solve this problem there is a need for North-South co-operation in archiving the information electronically.

Introduction

Every organization collects, generates and manages information. Information is often thought of as something current, and up to-date. Whilst this may be the case for some types of information, many other types have much more static, permanent or long-lasting qualities. Every information-related activity has a retrospective aspect, and most items of information have two uses: One that is related to the present, the other that is related to conditions that previously existed. This is true for the materials of all forms of information service. Research scientists need the most current data, while politicians or decision-makers need the latest report or most recent statistical aggregation in order to plan and make decisions.

This means that the information that becomes outdated should be distinguished from information still current. The information that has passed out of currency needs to be appraised and kept in another file for possible later usage.

Information processes



The first step in information processing consists of data collection, analysis of the data by the scientists and putting the information in a communicable way. Transmission of the information through publishing in journals, conference presentations, and/or publishing on the Internet may occur. After publishing, information has to be retrieved and used by patrons. Like other commodities, information, may not be useful or valuable for a long time; the long-lasting valuable information is stored in archives for later use and the raw data are disposed of. My paper discusses the last stage of the information process.

When I joined the Institute of Marine Sciences in Zanzibar, Tanzania, in 1991, our collection was small, with about nine journal titles, 2,500 books, a few research reports and a few reprints. As the years have passed, we have succeeded in collecting more than 500 reports from local researchers, while the number of reprints received from publishers and authors has increased tremendously. The increase in number of reports and reprints has been such that we have had to design the best way to control circulation first and then make sure that these documents were safeguarded against careless handling by library patrons. At the end of 1997, we decided that all reports and reprints should be stored under the form of microfiches, a decision that solved the problem of both losing the materials and materials being spoiled. These microfiches are kept for later use, while library patrons keep on using the materials printed on paper.

With the development of technology and the advent of new information-bearing materials and the provision of Internet to the Institute of Marine Sciences Zanzibar by the UNESCO IOC and the University of Dar es Salaam computing centre, the library has been able to provide access to electronic information. Patrons have been able to surf the Internet and retrieve electronic information which only a few years ago was still inaccessible. However, with the fast changes and updates made by webmasters, the electronic information that is available changes every day. A user cannot be sure of finding the same article the next day. To solve this problem, we have introduced a system whereby articles are saved onto a disk and printed on paper, while we still have to think about other possible ways of conserving this valuable information. The library also has started receiving requested documents from RECOSCIX- WIO dispatch centre via Ariel. This process simplifies paper handling work, but, it also gives us pressure on how to store the documents.

One of the ways to store this valuable information could be to create a database that will hold the information much longer and be accessible by our patrons whenever needed, within the next four or five years to come. This database will function solely as an archive for both electronic and paper form materials that we plan to restore using the existing system.

WHY ELECTRONIC ARCHIVING?

Traditionally, archives have preserved the essential characteristics of records, their content, structure, context and authenticity, by preserving the media on which they are recorded in the original order. In the case of electronic records, this approach will not achieve the objective of preserving access to the records over the lengths of time required for archives.

This shortcoming is due to the fact that the technology necessary to retrieve the records in an intelligible form from their physical carrier changes at a faster rate than the carriers themselves. For example, in computerised systems, records storage may employ certain hardware and software. Computer files may not necessarily continue to be retrievable

over extended time merely because their component parts were stored using a particular medium no longer used or available locally. Access to or retrieval of electronic records created in specific environments will usually require a capacity to replicate those measures at a later time to ensure authentic versions of records are available, even though the technical retrieval process may be different.

Electronic records are generated in the computer system which the library uses to facilitate its normal routine operations. For this reason, maintaining the accessibility of electronic records over time should not normally require significant analytical, design, programming, or hardware resources over and above those which are normally required for the maintenance of the computer systems. As applications are reviewed and re-developed, the carrying-forward of the records and their translation into the updated software and hardware technologies can be incorporated into the established system development processes.

Ensuring the accessibility of electronic records of enduring value is simply a way of meeting certain administrative requirements with which the library must in any case comply. It is my belief that the funds required by the library to employ electronic filing systems would be more than matched by the financial gains facilitated by the general accessibility to records. The benefits of maintaining records efficiently would be valuable, not just locally, but to the Western Indian Ocean region as a whole.

Electronic records of enduring value that are retained in the physical possession of the library will be protected from alteration or destruction, including anything which would render them inaccessible. Although the purpose of keeping such records in an electronic format is to ensure that institutions like the IMS can cost-effectively maintain files in a controllable form over time this must not be allowed to endanger the contents of the actual authentic record. For example, a change in the value of a data field may be permissible in a given application, but should it obliterate the pre-existing value which was required for record purposes, then we will find means to protect the previous value so that the record can genuinely reflect the original transaction which it purports to substantiate.

Advantage of electronic archiving

One might wonder why we are calling for electronic archiving and the North – South co-operation. Electronic archiving enables centralized management of data and documents from a variety of sources and under miscellaneous formats, as well as enhanced security through reliable capture, backup, and recovery. Electronic archiving also provides fast, simultaneous access to data and documents by authorised users anywhere on your internal network or Intranet. Users can find the information they need on time. However for an electronic archiving solution to be fully effective in the real world it must be linked to daily operational processes. Business process integration not only improve data integrity by ensuring the capture and preservation of critical information, but it also opens

a window into the processes themselves to develop new more efficient methods and approaches.

The North- South co-operation

It is now widely recognized that new information and communication technologies have had and will continue to have a profound impact on the lives of people everywhere in the world (Shahid Akhtar 1995). Technology is allowing us increasingly global access to information. Global communication allows researchers faster and easier access to existing research and gives them the ability to share their information resources. We have the technical means of sharing data across great geographic distances. We must now find a way to preserve both the information and the access to information that will allow north and south co-operation in the marine sciences to flourish and to benefit us all.

For the electronic archiving project to be sustainable, however, I am here calling for a North -South co-operation in archiving this valuable information for the benefit of both sides. The South will benefit from the valuable information restored, while duplication of research will be minimised. Simultaneously, the North will benefit from reading what is happening in the South. And the most beneficial process is the globalisation of the marine sciences. Let us construct the passageway through which one day the globalisation of marine sciences may successfully walk. Science is nothing if not shared.

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