

# PRESERVING ELECTRONIC RECORDS IN GHANA: IMPLICATIONS FOR NATIONAL HERITAGE

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## **Abstract**

*With the revolutionary global shift from print to electronic media as means of documentation and communication, the landscape of managing records is changing fast. In Africa, the public sector is more hit as a result of the lack of resources, legislative framework, infrastructure and institutional capacity. The article discusses the preservation of electronic documents in the public sector of Ghana and the implications for national heritage. It highlights key issues including, legislative reviews, technological support, staff re-engineering and capacity building and the active involvement of records and archives managers in the "conception" stage of electronic documents.*

## **Introduction**

It is an unnegotiable fact that we are living in a transition period from paper and print to paperless and electronic-based information sources and records (Cox 1998). The outcome of increased technical capabilities of technology has been increasing quantities of records being created, communicated and maintained in electronic form. The United States for example had estimated that about three-quarters of its transactions will be handled electronically by the year 2000 (Shepherd 1994). This notion has resulted in the United States Senate and House of representatives

enacting the Paperwork Elimination Act in 1995 (Ubogu 2001). On the contrary, Fitzgerald (1998) intimated that, the world will never see paper eliminated entirely but rather a society in which paper has a much-diminished role. While the debate is raging on in the developed countries, Africa being saddled with diminishing gross domestic products, ever soaring debt burdens, unfavourable trade balances and high inflationary trends is yet to start grappling with the pull and tug fashion with which rapidly changing technology is impacting on the institutions creating and managing records and archives.

The threat posed by the combination of the factors to the national heritage of Ghana is enormous. The controversy of what constitutes national heritage is not the concern of this paper. Most definitions limit it to monuments, buildings, historical sites etc. However, according to Smith (1985), in addition to physical evidence, heritage includes the products of man's unique capacity to think rationally and to record and transmit ideas and information. Documents serve not only to record and express human thought and action, but also to illuminate the collective sense of identity and continuity developed by a particular

people. Apart from the immense contributions to public administration, public documents particularly archive are the embodiment of a nation's common historical, social and political experience over the years and as such need to be preserved to ensure that generations of its citizens have both physical and intellectual access to them.

### **The Preservation Problem**

The geographical location of Ghana places it among a set of countries which experience high and fluctuating temperatures and relative humidity, abundance of sunlight, and a thriving macro and micro biological activity. Together with the economic throes of the past few decades, these have made the preservation of its documentary heritage a daunting task.

It is true that today only an insignificant proportion of the documentary heritage of Ghana is in electronic format. It is equally true that since 1963, when the first computer was installed in the public sector, there had been a gradual build up of electronic documents in public offices (Akussah & Tiarniyu 2000). Gradually some of these records are finding their ways into the Public Archives system and will need to be preserved along side the traditional paper-based documents. The implication of this is that preservation endeavours can no longer be solely focused on paper or other familiar documents.

As rightly pointed out by Buchanan and Jensen (1995), preservation of electronic formats embrace many of the same basic principles as the preservation of traditional media. These include among others selection, care and handling, storage, security and environmental control. However, the difference between digital documents and traditional paper documents in terms of the way they are generated, captured, transmitted, stored, maintained, accessed and managed demands more critical care for electronic documents (Rothenberg 1999). Apart from the uncertain longevity of electronic media, their fragile and delicate magnetic and optical carriers deteriorate faster under the pressure of heat, humidity and atmospheric contaminants (Hedstrom and Montgomery 1998). They are more prone to loss, corruption and unauthorized access. They demand more critical security for their integrity and authenticity. The constantly and rapidly changing technology seems to be aggravating the problem of extended intellectual access to digital documents. The National Historical Publication and Records Commission of the United States (1990) minced no words when it stated that:

Managing information in electronic form to ensure its availability for future use by a broad spectrum of users including records creators, historians, social scientists, genealogists, journalists, lawyers and private citizens is the most significant and difficult challenge currently confronting the archival community.

In Ghana, the creation, processing, security, integrity, storage preservation and the intellectual access to electronic documents have been for a long time taken for granted. Policies, methods and standards for records and archives management were developed to meet the needs of traditional paper-based environments, and for that reason making their applicability to the electronic environment difficult (Akussah & Tiemiye 2000). This situation no doubt poses a great threat to the national documentary heritage. The writer is aware of the efforts in 1997 to develop a National Electronic Records Management Policy but nothing substantial came out of those efforts. Similarly in September 2001, a national forum was organized to brain-storm on a National Information Technology Policy. Concrete results are yet to be realized from this endeavour as well. The problem therefore lingers on.

### **The Role of the Archivist**

According to Cook (1990), archivists have an important role to play in the modern information age if they realize that "they are in the understanding business and not information business". Cox (1998) also cautions archivists about the fundamental matters they need to keep in sight to enable them survive. In Cox's view, the institutions creating the records and their keeping systems are changing rapidly with changing information technologies. Archivists therefore need to re-align their principles and knowledge to the range of information age concerns

such as classification and retrieval to enhance their opportunities for playing functional roles. It is equally important that archivists reflect on their institutions as well within the framework of the transforming nature of information technology. In the words of Bearman (1994) archivists will need to continue to stay abreast of changes and manage implementations to achieve the greatest possible degree of conformance.

To enable archivists cope with the preservation of the products of the changing information technology, Buchanan and Jensen (1995) propose that they need to understand the physical nature of electronic documents and their format. They catalogued the following key issues among others which need to be thoroughly comprehended.

- How is the information stored in the digital file?
- What type of medium is it stored on?
- What is the medium's life expectancy?
- What could affect the longevity or the accessibility of the information on the media?
- What technology is and will continue to be needed to translate the document including any hardware and software?
- How easily can the information be upgraded?
- What are the staff, time and cost implications involved in preserving the information?.

For convenience, Buchanan and

Jensen's propositions can be viewed as constituting two main issues - technical and non-technical issues.

### **Technical Issues**

Technological obsolescence, it has been suggested by many, represents a greater threat to digital information than the instability and fragility of the medium on which the information is stored. (US Commission on Preservation and Access 1994; Buchanan and Jensen, 1995). Most digital media, even under the best of storage conditions have limited shelf life. The rate at which new devices, processes and software are changed should rather be of more concern to archivists.

An optical disc for example may have a shelf life of twenty-five years but the technology used to intellectually access the information on it may be obsolete in less than five years. In the face of the technological obsolescence problem and in the bid to ensure extended access to electronic information, the archivist needs to adopt the techniques of "refreshing" and migration (Bearman, 1989; Bikson and Frinking 1993; Rothenberg 1995).

### **Non-Technical Issues**

Electronic record formats are costly to acquire, and maintain. As such the archivist should be prepared to sacrifice everything to ensure their longevity. To be able to make reasonable impact in this direction, Buchanan and Jensen (1995) suggest their full involvement in the development of standards, quality

control, and user access software.

The archivist needs to be aware of the security issues associated with electronic records. He must guarantee the integrity, authenticity and reliability of the digital records. Comprehensive data security strategies as well as disaster prevention strategies need to be put in place (Akussah and Tiamiyu 2000).

System documentation and meta - data description, legal requirements, provenance, rights management and policy framework are all issues that the archivist needs to address (Drijfhout 2001).

### **Public Sector Electronic Records in Ghana**

The Public Records and Archives Administration Act of 1997 superseded the Public Archives Ordinance of 1955 as the legal framework for managing public records in Ghana. The new act statutorily established the Public Records and Archives Administration Department (PRAAD) embracing the Registries and Records Offices in the Public Sector, the National Records Centre Network and the National Archives Network. By the act, PRAAD is empowered to manage the total life cycle of Public records, (electronic records inclusive). It is interesting however to note that, policies and procedures deriving from the act and other supplementary legislations for the management of public records and for that matter archives were developed within the context of paper documents. This

brings to the question, the institutional capacity of PRAAD to manage public sector electronic records which ultimately constitute part of the national documentary heritage. Just like traditional paper records and archives, public electronic records reflect government decisions, transactions and activities, as such there must be proper guidelines pertaining to the archival functions of appraisal, preservation and the provision of both physical and intellectual access at different phases of their life cycle.

### **The Public Records & Archives Administrative Department**

The Ghana Public Sector Records Management Reform Programme which was initiated in the early 1990s was aimed at strengthening the legal framework and the institutional structures for managing public records. In addition, the programme sought to build capacity for efficient records management and information delivery. These efforts resulted in the promulgation of a new Act and some structural changes of the then National Archives (Akussah & Tiamiyu 2000). Sadly however, the focus had been on paper records. As mentioned earlier, the closest effort at addressing the electronic document management issue was an attempt at putting together an Electronic Records Management Policy. This did not bear any fruits. This leaves PRAAD, the custodian of public records and for that matter public electronic records legally and institutionally outpaced by the rapid changes in the creation and use of

electronic information media.

It would have been expected that the growing use of electronic technologies since 1963 in Ghana to support a wide range of information tasks at all levels in the public sector would have resulted in formal procedural changes for records and archives management, but this has not been the case. Most archivists in Ghana attribute this situation to prevailing legislations and particularly the present Act which does not explicitly mention, let alone recognize the evidential status of electronic records, hence the continuous reliance on paper documents for legal precedents since electronic documents are not "signed originals".

It is no secret that in the Ghana Public Service, this unfortunate situation has resulted in the maintenance of a dual system where electronic files run parallel to paper base files. The electronic files constitute the working document and the paper file the official records. The implication of this is that valuable information for the reconstruction of government business may not be part of official files. This situation is more critical with the now prevalent use of Electronic Mail for communication and transaction of government business through personal E-mail accounts of public officials. Such transactions continue to be treated as personal, and are managed through the adoption of electronic data management strategies that serve only their personal interest. The net effect of this is that, such valuable

records which should constitute part of the national heritage end up as "personal heritage", and are lost anytime there is a technological slip.

Equally disturbing is the assumption that every electronic document in the public domain has an equivalent or a parallel paper document. This assumption impacts negatively on records and archives management in the sense that the assumption obscures the need for rigorous examination, resulting in the loss of electronic information which otherwise would have constituted part of the national heritage.

PRAAD has a role to play, and this role relates to the appraisal, preservation and ensuring access to public electronic records. It needs to guarantee the integrity, authenticity and reliability of electronic records in the public domain. There is the need to ensure continuous access to such records by making them available, retrievable and understandable for as long as they constitute part of the national heritage. This calls for the maintenance of Meta-data, describing the functioning of institutions that produce and process electronic records, their structure, and contents. This function can be performed at various stages in the life cycle of electronic records.

### **The Way Forward**

Bleak as the situation as portrayed so far may look, very purposeful and swift intervention can easily turn the tide in favour of effective preservation of the electronic documentary heri-

tage of Ghana.

In the first place, the electronic records management policy void needs to be quickly plugged. This could begin with legislative reviews or supplementary legislations which should explicitly define the status of electronic information as official record material. Records and archives managers for that matter PRAAD should put together guidelines for electronic information handling which will benefit both the creators and the custodians. A plus for PRAAD is the fact that it has been assigned the responsibility for managing the full life cycle of public records under the Public Records and Archives Administration Act of 1997. What the records and archives managers need to do is to get involved as early in the life cycle of electronic documents as possible in order to ensure that functions such as appraisal, preservation, and access are well taken care of at the systems design stage. This implies teaming up with computer systems specialists to design technology that supports the requirements of preservation and use of electronic records.

PRAAD as an Institution today has very little technological capabilities to perform in the very volatile electronic information environment. The Government of Ghana should embark upon a conscious drive to provide technological support for PRAAD . This should be accompanied by staff re-engineering to re-align the skills of the staff of PRAAD to the changing landscape of the information environ-

ment.

Finally, there is an urgent need to develop effective interfaces between traditional records and archives management practices in the registries, record offices and the archives and the electronic records management systems. This will ensure continuity and avoid lapses and gaps in the steady build up of valuable national heritage.

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