Digitization and Preservation
Global Opportunities and Challenges

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Abstract

As countries worldwide enhance their ability to operate in the digital environment, our societies have the greatest opportunity the world has ever known for preserving and sharing information and empowering citizens through access to information. There is a rapidly growing international awareness of the potential benefits but less recognition of what must be in place to realize them. The challenge is to articulate clearly the essential significance of authentic, trustworthy records as the foundation for transparency and accountability along with the risks of failing to address digital records management and preservation; and to share knowledge of good practice across the information profession as rapidly as possible.

Author

Anne Thurston has pioneered approaches to sharing solutions for managing public sector records with developing nations. Between 1970 and 1980 she lived in Kenya where she conducted research before joining the staff of the Kenya National Archives. In 1980 she became a Lecturer, later a Reader in International Records Studies at the School of Library, Archive and Information Studies, University College London. She established the International Records Management Trust in 1989 and continues to be its Director. In 1996 she left University College London to concentrate fully on the work of the Trust. In the 1990s, recognizing the impact of the rapid changes in the use of information technology on the management of public sector records, she structured the Trust to address the impact of those changes. Dr. Thurston was a member of the UK Lord Chancellor's Advisory Council on Public Records from 1994 to 2000. She was awarded an OBE for services to public administration in Africa in 2000 and a Lifetime Achievement Award by the Records Management Society of the UK in 2007. She was awarded the Emmett Leahy Award for Outstanding Contributions to the Information and Records Management Profession in 2007.

1. Introduction

UNESCO and UBC have achieved something extraordinary in convening this conference. Our societies have the greatest opportunity the world has ever known for preserving and sharing information and empowering citizens through access to information. It is the right time, and you are the right people to take this issue forward. As UNESCO notes on the conference website, digital information not only has value as a cultural product and a source of knowledge, but it is essential to sustainable national development as, increasingly, personal, governmental and

commercial information is created in digital form only. Digital and digitised records are rapidly becoming the basis for citizens to exercise and protect their rights.

My work over the last 40 years has given me a context for examining these issues. I lived in Kenya for 10 years in the 1980s and joined the staff of the National Archives of Kenya. Later, I taught at University College London and conducted extensive research on the management of government records in 32 countries worldwide. On this basis, I set up the International Records Management Trust[1], which I have run for over two decades. The IRMT has worked in virtually all regions of the world but mostly in Africa, where we are committed to providing support to densely populated low-income countries, which we believe can benefit greatly from strengthened records management. Our three-pronged approach, which involves on-going research, consultancy, and development/ distribution of free educational material and assessment tools, has given us an overview of the challenges countries are facing worldwide.

The global wealth of expertise gathered at this conference is extraordinary. At the same time, the lack of high-level support for digital records management and preservation is a stark reality, with a massive widening gap between what is needed and what is being achieved. If the digital memory of the world, including that portion of the memory resident in government records, is to survive, we need to take a careful look at how we position ourselves strategically to bring about change.

UNESCO has challenged us to launch specific initiatives related to digital preservation, to foster access to documentary heritage through digitization, to identify legal frameworks that will facilitate long-term digital preservation, to agree on our approach to exchange standards, and to define the respective roles of professionals, academics, industry and governments in relation to these issues. These are excellent and necessary objectives, but to achieve them, we need to understand why digital access and preservation receive so little recognition and are so poorly funded in most parts of the world. How can we reverse this position? What are the priority development areas to which we can contribute? I believe that in addition to technical competence, we have to position ourselves to make our contribution in the context of the growing global emphasis on citizens' right to transparent and accountable government. In today's climate of limited funding, competing priorities and budget cuts, we have to demonstrate relevance to global needs.

2. Barriers and Challenges for Digital Preservation

In this presentation, I am focusing on government records and data, not because I am unaware of the importance of non-governmental cultural assets or of personal and commercial records, but because few societies invest in cultural preservation for its own sake: there must be practical and demonstrable benefits to the society. Preserving digital records as cultural assets and managing them as organisational assets must begin by addressing the weaknesses in the management of current records. Unless we are positioned close to the point at which the records are still being actively managed in the creating agencies, the records are unlikely to be available, understandable and useable through time. Ultimately, leadership and funding for preservation and access will come largely through governments and the donors and lenders that support them, but a number of crosscutting issues will have to be resolved.

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[1] See www.irmt.org

2.1 Issue One: Digital Preservation Is Not a Development Priority

This is, I believe, the single most important issue that we must address. International donor and lender support is often a crucial factor in influencing national development priorities and an essential source of funding, but at present, digital preservation is not even on the radar of the global development community. Unless this changes, the money to pay for digital preservation and the structures needed to support it will not be available. Too frequently, digitisation and business process automation are concerned only with the present, with little attention to the future. We need to help governments, donors and lenders understand that digitisation and preservation are a fundamental part of the context of development.

2.2 Issue Two: Lack of Awareness

For the most part, development planners and government stakeholders are not yet aware of preservation and access issues, of the cost of the failure to address these issues or of what is needed to do so. They still tend to believe that technology will resolve the problems. The information profession has not yet spoken powerfully into the development process. We have not made it clear why and how our profession is such a crucial factor for social and economic development. Introducing Information and Communications Technology (ICT) is a major development goal in countries across the world. Government officials and development planners tend to assume that digital information will survive without intervention. They focus on the dramatic benefits of digital systems without considering the integrity of the digital information that these systems generate. Millions of dollars are invested in information systems, but records are not being captured in a form that will be intelligible, unalterable and usable over time. Government agencies have hardly begun to take responsibility for the records they generate.

2.3 Issue Three: Gaps in the Institutional/ Regulatory Framework

In many countries the combination of laws and policies, standards and practices, enabling technologies and qualified staff needed to ensure that digital records remain accessible and trustworthy are not in place. Legislation is often out of date or inappropriate, and conflicting laws tend to split responsibilities for government records or result in an absence of responsibility, so that no one is accountable. In many cases, international standards have not been introduced, and often planners don't know that they exist. There tends to be an absence of national information policies, and where policies exist, they tend to relate to paper records. Trusted digital repositories rarely exist, and digital records are often stored on various recording media in computer rooms or in rooms with poor environmental controls. In many cases, basic procedures and management controls for digital records management and preservation have not been developed and implemented, and there has been little planning for continued accessibility in the changing ICT environment.

2.4 Issue Four: There Is a Lack of Practical Capacity to Manage and Preserve Digital Records

Relatively few records professionals worldwide have had in-depth training and experience in managing and preserving digital records. University education programmes are beginning to address the issues, but the lack of practical expertise nationally tends to mean that education and training remain theoretical. Newly qualified professionals flounder when faced with the enormous challenges of turning theoretical learning into practical solutions.

2.5 Issue Five: Digitization Initiatives Can Fail Due to a Lack of Preparation and Standards

Digitization is a priority issue for many governments and international organisations as a quick means of making records accessible and ending dependence on paper records. Digitization projects fail or achieve limited results where the original paper records are poorly organised and international standards for digitization are not recognized. Too often, the management and quality control framework needed to ensure that the digitized records meet requirements for legal admissibility, reliability and authenticity, and long-term preservation have not been developed. Requirements for image resolution, metadata fields, standardised indexes and classification structures, and retention and disposition schedules are often unrecognized. In some cases, agencies assume that hard copy source records can be destroyed as soon as digital copies are created; if the scanned image is poor or there are problems with accessing it, the agency and civil society are at risk. Where the organisation responsible for the digitized records does not have a digital repository and a digital preservation strategy in place, the digitized records are unlikely to survive in the long-term.

3. Consequences of the Current Situation

Meaningful citizen engagement in the digital environment requires on-going access to trustworthy, reliable and accurate records and datasets. If they are not professionally managed in secure technology-neutral facilities and supported by complete metadata, they are unlikely to be available to support citizens' needs. Unmanaged information can be manipulated, deleted, fragmented or lost, and records can become unreliable. Citizens cannot prove unequal or unjust treatment, delivery of justice is impaired, and human rights cannot be protected. Access to Information (ATI) requests cannot be met promptly or accurately. Data drawn from inaccurate and incomplete records can lead to skewed findings and statistics. Governments' ability to make decisions and achieve strategic priorities for economic and social development is seriously undermined. Misuse of information, cover up of fraud, misguided policy recommendations and misused funding all contribute to poor governance. Information technology projects are often not sustainable or do not reach their intended goals because records issues are not addressed as part of the planning and because implementation process and because data is not kept accurate and up to date.

4. Open Government: An Opportunity for the Records Profession

Over the last several decades, governments and donors have tried to improve the quality of governance through strategies and programmes for addressing poverty reduction, structural adjustment, democratisation, service and programme improvement, political regime stability, evidence-based governance, electronic government and anti-corruption. Records are essential for all these objectives, but the development community has not recognised their crucial significance. The Open Government Partnership (OGP)[2], launched in September 2011, offers a significant new opportunity for our profession.

The Partnership is based on the idea that governments exist for the benefit of the people; the people should have access to information about what their governments are doing so that they can hold them accountable and get the greatest possible advantage from government information. The Open Government Declaration, signed in September 2011, recognised that people around the world are looking for ways to make their governments more transparent, responsive, accountable and effective. This remarkable initiative, involving leaders at the highest political level, endorsed the principles of the Universal Declaration of Human Rights, the UN Convention against corruption and other instruments related to human rights and good governance. To date, 57 countries have joined the initiative, 45 of which have delivered commitments and 12 of which are developing commitments. Moreover, Open Government is being discussed in many countries that have not applied to join the Partnership.

The transparency and accountability field is now one of the fastest growing public movements of recent years. It brings together a wide range of organisations and projects aimed at promoting greater openness on the part of governments, companies and other institutions so that the public can hold them to account. It represents a unique opportunity for the records profession because well-managed records, as evidence of government policies, activities and transactions, are the cornerstone of openness. I do not believe that the movement can truly succeed without our involvement.

At present, however, records barely feature on the Open Government agenda. Instead, Open Data has an increasingly high profile because it is an immediate way of making government information available. Open Data involves opening non-sensitive datasets as a way of promoting transparency, accountability and economic development. The US and UK led this movement initially, but Open Data is rapidly gathering momentum worldwide. In July 2011, Kenya became the first African country to launch an Open Data portal, releasing over 160 datasets including budget and expenditure data, as well as information on healthcare and school facilities. This has caused great excitement in the development community.

For all the excitement about the potential of Open Data, the fact remains that if governments are to prove accountable and achieve their economic and social objectives, and if citizens are to engage meaningfully with their governments in the digital environment, on-going access to trustworthy, reliable and accurate records and datasets is essential; data is only meaningful if it can be traced back to the records from which it is derived. There is a strong relationship between records management and government accountability, decision-making, service delivery and ability to achieve strategic priorities. Citizens and investors need to know they can trust the information that governments provide. When they make requests under Access

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[2] See http://www.opengovpartnership.org/

to Information legislation, they have the right to expect that the information will be provided promptly and will be accurate and authentic. When datasets are released through Open Government portals, they have the right to expect that the data can be trusted. Only then can Open Data and Access to Information become true means of ensuring government transparency and openness.

We have an opportunity to raise the profile of records management significantly, with governments and with donors and lenders, if we can make the case clearly that records are the basis for successful openness and bring this issue onto the Open Government agenda. Getting records management into OGP country action plans that members are required to develop is a valuable opportunity to raise the profile of records management services, argue for greater resources and make a significant contribution to national and international development. Beyond that, we need to work with international partners to get records management and preservation onto the OGP agenda.

5. Bringing Records Issues Onto the OGP Agenda

The IRMT, working with the International Council on Archives (ICA) and the Transparency and Accountability Initiative[3] in London, has begun this process. The ICA, as the international NGO dedicated to the effective management and preservation of records and archives, recognises the opportunity that Open Government offers for the records community. The Transparency and Accountability Initiative, which brings together philanthropic foundations, official aid agencies and civil society networks to promote innovation in transparency and accountability across many fields of international development, has accepted that records are fundamental to openness. This month, together we launched an initiative on Open Government and Trustworthy Records involving an international stakeholder assessment of a narrative and an assessment tool aimed at helping governments set direction for records management and preservation as elements of their OGP action plans.

The Assessment looks at the institutional/ regulatory framework and capacity in place at three levels of achievement. In the *initial steps*, the goal is to ensure that evidence of government decisions, actions and transactions is created, captured and managed in fixed and accessible form as reliable and authentic records, to underpin transparency and accountability. In the *more substantial steps*, the goal is to ensure that records management requirements are addressed in relation to Open Data/ Access to Information requirements and ICT/ e-Government initiatives, and that these requirements are integrated in the design of government business systems. The goal for the *most ambitious steps* is to ensure that proactive disclosure of records and the information and data derived from records is embedded in government processes and cultures, thereby promoting engagement between governments and citizens.

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[3] See http://www.transparency-initiative.org/

6. An Example of What Can Be Achieved: Norway[4]

Norway's initiatives in records management and digital preservation offer insight into what is achievable. The Norwegian model requirements for electronic records management systems were first introduced in 1984, and over almost 30 years, on going developments in the complexity of platforms, system portfolios and functionalities have been fused into a common standard for a wide range of applications.

The model requirements emphasise the direct relationship between quality at the point of creation and the ability to reproduce the records according to their original structure to show relationships and original context in a way that upholds their authenticity, accuracy and context. This is achieved by ensuring that everything is identified, labelled and coherently structured within the model requirements. Legislation narrows down the range of allowed file formats for transmission, and vendors may not sell electronic document and records management systems in the public sector without proving that their solutions comply with the model requirements.

One of the most striking aspects of the Norwegian approach is the awareness that preservation itself is not enough. From a historical perspective, access to archives does not have to happen quickly. However, if the material is needed because it contains important legal, financial, government based or rights-oriented information, it is important to reduce the time between creation and public access by users, including lawyers, courts, public bodies, researchers and individuals. The aim is to meet increasing citizen expectations for rapid, almost real time access to information and to make digital repositories a natural part of the digital environment.

The Ministry of Government Administration, Reform and Church Affairs offers an Electronic Public Records System as part of the Norwegian Government's commitment to transparency and democracy within the public sector. Based on the Freedom of Information Act and related regulations, it aims to make the public sector more open to citizens. Central government agencies use this tool daily to publicise metadata about the records they create online so that users can identify documents relevant to their interests and submit requests to see them. The documents are provided within a matter of days. Within a few years from their creation, the National Archives of Norway receives these records from the ministries through a digital repository structure that meets TRAC and OAIS requirements and reduces the need for manual operations through standardised models for digital preservation. In 2011 when the National Archives developed a 'smartphone app' to enable public access to records and data direct from its repositories, the range of possibilities for information retrieval advanced to a new level.

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[4] This analysis is based on extensive communication with Olav Hagen Sataslaatten, Assistant Director General of the National Archives of Norway. See Olav Hagen Sataslaatten,"Does our ability to preserve and create future access to data depend ultimately on the quality of model requirements in its creational phase?" (Poster to be presented at iPres2012, University of Toronto, October 1-5 October, 2012).
See also descriptions of Noark 5, arkivverket.no/arkivverket/Offentlig-forvaltning/Noark/Noark-5/English-version, and of Norway's Electronic Public Records System, www.epsa-projects.eu/index.php?title=Electronic_public_records.

7. Conclusion

At present, the lack of capacity, appropriate institutional/ regulatory frameworks and funding are substantial impediments to digital records management and preservation. So long as these issues have low priority, the situation will grow more critical as the volume of records in digital form increases substantially in coming years and the records from previous technologies age. Marginal increases in funding will not be enough to reverse the situation. As we examine initiatives for strengthening long-term digital preservation and consider the roles that different stakeholders need to play in this process, it is also crucial to position the information profession in relation to the global development context, particularly the Open Government movement.

We have a unique and essential contribution to make to international development, because we have the means of ensuring that digital information is protected and preserved in a trustworthy, authentic form. We have made tremendous progress in developing the concepts and tools needed to manage digital records, from strategies and standards, to laws, practices and technologies, and we have a powerful global network of information specialists. However, in order to make our rightful contribution, the profession will have to reposition itself, to move forward in new directions, to find new ways of sharing good practice and collaborating with new stakeholders. Government archives, for instance, will need to go beyond guidance and regulations to assume leadership and oversight. They will need to work actively, not only within the professional information community, including libraries and museums, but also with government stakeholders, including those responsible for Access to Information, Open Data, Electronic Government and audit.

Most importantly, the profession will need to focus on becoming relevant to citizens' needs. If we fail to do so, there will be significant losses for government accountability, economic opportunity, citizens' rights and the preservation of knowledge. This may begin with international bodies such as UNESCO and the ICA reaching out to new partners, with universities considering new joint programmes, with individual processionals opening new discussions across government agencies. The bottom line is that if we want to serve the world's citizens by protecting and preserving digital information, if we want the funding situation to change, we must change.