

Edith Cowan University
Research Online

ECU Publications Pre. 2011

2006

Developing recordkeeping: Australians working together

Karen Anderson
Edith Cowan University

Follow this and additional works at: <https://ro.ecu.edu.au/ecuworks>

 Part of the [Computer Sciences Commons](#)

Anderson, K. (2006). Developing recordkeeping: Australians working together. In Making and keeping connections: Life, learning and information networks: Proceedings of the Transforming Information and Learning Conference. Perth, Australia: Edith Cowan University.
This Conference Proceeding is posted at Research Online.
<https://ro.ecu.edu.au/ecuworks/2008>

Developing recordkeeping: Australians working together

Abstract

Australia has nine governments, each with their own archives and records legislation. This multiplicity of jurisdictions has the potential for generating divergence and incompatibility of standards. However, the Australian recordkeeping community works together with the result that consistent, complementary standards are not only customised to local legislative requirements and situations, but will in future ensure interoperability and ease of transfer of records wherever necessary. Australian recordkeeping professionals have a sound history of working together. The Implementation Guidelines for the current *International standard for records management, ISO15489.2-2001*, were adopted and adapted from those in an earlier Australian Standard for records management, *AS4390-1996*, jointly developed by the National Archives of Australia and State Records New South Wales. The community has also been influential in the development of the *Competency standard for archives and records management*, an Australian Work process standard (*AS5090*), and the development of metadata standards for recordkeeping. This last was strengthened by leading research from Monash University in which the National Archives of Australia and State Records New South Wales, and the Australian Society of Archivists collaborated.

The archives and records authorities have formed the Council of Australasian Archives and Records Authorities (CAARA). A major part of their work is done under the umbrella of the Australian Digital Recordkeeping Initiative strategically sharing the challenging tasks required to successfully capture and preserve digital records as archives for the future. They also work with other influential partners, including auditors-general, the Australian Government Information Management Office and other heritage collecting bodies such as the Collections Australia and the National Library of Australia.

This paper will explore collaboration and cooperation in the Australian recordkeeping community and its strategic benefits for developing the infrastructure necessary to manage technology-dependent records in the present and provide digital public access to them in the future.

Introduction

Australian recordkeeping organisations work together well and have built excellent networks and vehicles for the purpose of collaboration. Australia's federal government system of nine governments could have been a recipe for disconnection and divergence, since each of the jurisdictions has, as it must, its own archives and records legislation. It is true that these laws have been introduced at different times and some of the archival authorities are much better funded than others. Thus development and responses to the challenges of recordkeeping in a digital world have been at different rates in different states. Rather than leave some behind, the group has taken the Council of Federal, State and Territory Archives (COFSTA) a long-standing vehicle for communication between Australian archival authorities and on 1 July, 2004 turned it into CAARA,

The Council of Australasian Archives and Records Authorities. More than just a change of name, the group now includes Archives New Zealand as well as the National Archives of Australia, Archives Office of Tasmania, Northern Territory Archives Service, Public Record Office Victoria, State Records Authority of New South Wales, State Records Office of Western Australia, State Records of South Australia, Queensland State Archives and the Territory Records Office of the Australian Capital territory and has a very active work agenda. But this is one of the more recent developments in a lengthy record of working to ensure that consistent, complementary standards are not only customised to local legislative requirements and situations, but will in future ensure interoperability and ease of transfer of records wherever necessary.

Developing Standards for the Australian Recordkeeping Community

Australian recordkeeping professionals have a sound history of working together to develop standards and sharing the results of their work widely. In 1996 the first national standard in the world for recordkeeping was published as AS4390, the Australian Standard for Records Management (Standards Australia, 1996). The Standard was the result of collaborative work on a Committee of Standards Australia that included representatives of the recordkeeping profession. Both the Australian Society of Archivists and the Records Management Association of Australasia were formally represented on the Committee. It took the approach that developing and using policy and standards is the key to ensuring good recordkeeping in government and business. The standard establishes the **mandate** for accountable recordkeeping in organisations and the importance of responsibility for full and accurate recordkeeping being assigned at the highest level within the organisation. Part 3 *Strategies*, is central to the Standard and Appendix A for this section provides a *Model Implementation Plan*. While standards are usually high-level statements of principle, this Model was an important indicator of the more practical side of the cooperative work already underway and to be developed much further in future. It also provided a response to expressed need in the recordkeeping community for practical help in 'how to' implement a records management program. Importantly, the National Archives of Australia and all state recordkeeping authorities endorsed and adopted the Standard.

Prior to publication of AS4390, however, most of the Australian archival authorities had developed and disseminated policies and standards for their own jurisdictions and published them. The National Archives of Australia (NAA) and State Records Authority New South Wales (SRNSW) were among the first to use their websites as tools for dissemination of comprehensive recordkeeping advice. Thus their policies and extensive advice were available outside their own jurisdictions for the benefit of any who had Internet access. This was a sound strategy not only for setting out requirements for recordkeeping in government agencies within their jurisdiction, but also for stimulating professional development and discussion in the wider profession. Thus, any archivist or volunteer anywhere could, for example, access the NAA *Archives Advices* series to find information on basic preservation for the range of records formats including paper, photographs, magnetic media,

thermal papers, maps, microforms and many other issues of archival practice. NAA's *Recordkeeping* web pages have also been a source of authoritative advice on policy, standards and practice for many professionals outside the Commonwealth government agencies that are their primary audience.

Competency Standard for Archives and Records

At approximately the same time as AS4390 was under development, the Commonwealth government set up a program to develop competency standards for a wide range of occupations in consultation with unions and employers, in order to underpin a standardised national training system. The recordkeeping discipline participated in this process through the work of the Records and Archives Competency Standards Working Group, again containing membership representing the Records Management Association of Australasia, the Australian Society of Archivists and the Australian Council of Archives. The first *Records and Archives Competency Standard* was published by the National Finance Industry Training Advisory Body in November 1997. The competency standard has since been subsumed into the Business Services Industry Training Advisory Body and a revised edition published in 2001 (Hoy, 2004; 2006; Picot, 2001). It is used as the basis for development of training packages for use by the Technical and Further Education system across Australia and for other training providers. A further review process is now under way (Hoy, 2006). Throughout this whole process, the Australian Society of Archivists and Records Management Association of Australia have not just maintained a watching brief, but have been actively involved to ensure that the description of required competencies for professional recordkeepers is accurately represented.

Developing the International Standard for Records Management

The Australian Standard AS4390-1996 aroused international interest as a world-first records management standard (Stephens and Roberts, 1996). Subsequently the International Standards Organisation formed an international committee of records management experts to draft a records management standard that would be accepted internationally. Although the principles of records management and the challenges of electronic records are the same everywhere, reaching agreement on terminology and the expression of those principles was a lengthy process that involved much discussion and negotiation and some compromise before agreement between all national representatives was reached. *ISO15489* was launched in 2001. The new Standard ISO 15489 consists of only two parts: Part 1 *General* and Part 2 *Implementation*. Part 1 contains an overview of the various components of a records management program. Part 2 provides more detailed strategies for implementation of those components. In particular, these Implementation Guidelines outline a process entitled *Developing and Implementing Records Systems (DIRS)*. The AS4390 Standard was built around a comprehensive methodological framework for the systematic design and implementation of recordkeeping systems, set out of Part 3. The methodology was based on progressive best practice, developed by leading practitioners and theorists in North America and Australia. The methodology played an important part in policies and strategies developed for electronic recordkeeping in the New

South Wales and Commonwealth Governments. The DIRKS (Developing and Implementing Recordkeeping Systems) Methodology, and eight-step process developed by SRNSW and NAA from the Model Implementation Plan in AS4390 based on systems analysis and project management methodologies, has been incorporated into the new ISO15489.2-2001 as the DIRS methodology. Only the title was changed to make the terminology internationally acceptable.

In turn, Standards Australia set up Committee IT- 021, Records Management to investigate approval of *ISO15489* as an Australian Standard. It was approved on behalf of the Council of Standards Australia on 21 February 2002 and published on 13 March 2002 as *AS ISO 15489*. Note that the Australian version has not altered the wording of the International Standard itself, but has noted differences between international and Australian terminology in the preface. Again, every Australian recordkeeping authority adopted *AS ISO15489-2002* and wrote it into their policies and standards. In reality, this was not difficult to do: AS4390 and AS ISO15489 are so similar in philosophy and content that Kate Cumming published a comparison entitled *Two peas in a pod: Comparison of ISO15489 and AS4390*.

DIRKS was, as noted above, jointly developed by SRNSW and NAA. Their work together on this went much further than the outline contained in *ISO15489-2001*. A much more detailed *DIRKS Manual* was developed. It was published first as an exposure draft for comment in 2000 and then formally published in 2001, freely available on the websites of both organizations, who are committed to working together to review and develop the methodology. *DIRKS* clearly and logically sets out a process and identifies tools and products that need to be developed or adopted for successful implementation of each stage.

The recordkeeping community has also actively participated in working to develop business standards that can be used as recordkeeping tools. A notable example is a standard for analyzing workflow within organizations. The Australian standard *AS5090 Work Process Analysis* published in 2003 has been put forward for fast track acceptance as an international standard. Although not immediately accepted as an International Standard, it has been taken to committee draft stage. In the meantime, NAA has tested the practical integration of the *AS5090: Work Process Standard* with *ISO15489-2 DIRS (DIRKS)*. A paper by Anne Liddell describes using *AS5090* in the *DIRKS* analysis of NAA's own recordkeeping to define transactions for functional analysis in *DIRKS* Step B. This willingness to test and publish case studies is very helpful to other agencies and professionals faced with the same tasks.

Another of the requirements of Developing and Implementing a Recordkeeping System is the need to identify and implement an appropriate recordkeeping metadata schema. Recordkeeping metadata requirements are much more complex than those met by the implementation of the Dublin Core metadata schema, commonly used for discovery and retrieval. Recordkeeping metadata schemas must not only be able to capture contextual information when the record is created, they must have the facility to record subsequent access and action

involving the record. The development of metadata standards for recordkeeping was strengthened by leading research from Monash University in which the National Archives of Australia, State Records New South Wales, and the Australian Society of Archivists collaborated, resulting in the first successful research grant application to the Australian Research Council from the Australian archives & records community. This Recordkeeping Metadata Project (Records Continuum Research Group, 1998) resulted in the *Australian Recordkeeping Metadata Schema* (Records Continuum Research Group, 2000), a comprehensive and iterative metadata schema that can be used to map metadata schemas to each other. Thus it is a standard for recordkeeping metadata standards. This is a particularly useful tool for migrating records from one system to another, or for evaluating recordkeeping metadata schemas.

Recordkeeping Authorities Working Together.

Nevertheless, the challenges involved in modern recordkeeping are so many that much more was needed. In response to the common challenges that all government recordkeeping authorities, government agencies and the recordkeeping profession in general faced, including the need to develop solutions to managing and preserving digital archives, a new strategically collaborative working group was formed: The Council of Australasian Archives and Records Authorities. The term 'Australasian' was used because Archives New Zealand joined the group, having similar needs and having adopted the same Records Continuum Model approach as their Australian counterparts. The aims of CAARA, as set out on its website are:

to promote a sense of understanding and consistency in the management of records of the Commonwealth, New Zealand, and the Australian States and Territories. Matters that have been considered by CAARA have included issues such as the management of records following the transfer of functions between governments, and between governments and the private sector; principles for the disposal and access to ministerial records; the ongoing review of copyright legislation; and the state of archives in Australia (CAARA, 2004).

The development and work plan of CAARA can be seen to have grown out of the now established habit of professional cooperation and collaboration. It acknowledges that much more progress can be made by working collaboratively to develop common benchmarks and best practice tools and that such a strategy is more appealing to governments when applying for funds to further particular projects. It was also becoming apparent that the growing tendency for governments to work cross-jurisdictionally, propelled by the need for seamless e-government service provision, presents a range of issues for recordkeeping. These include identifying responsibility for making and keeping records of cross-jurisdictional transactions, systems interoperability and compatibility of standards and approach.

One of CAARA's most important initiatives is the establishment of the Australian Digital recordkeeping Initiative (ADRI). The CAARA website notes that

The primary objective of ADRI is to pool resources and expertise to find better ways to ensure that digital records are preserved and made accessible for the future. ADRI focuses attention on the importance of archival institutions and government agencies working together to preserve digital records (CAARA, 2004).

The Australian Digital Recordkeeping Initiative

The formation of ADRI acknowledges and builds on the history of collaboration that has been a source of strength for the Australian recordkeeping profession and furthers that cooperation by sharing responsibility for initiatives across the membership, which is drawn from the same jurisdictions as make up the membership of CAARA. ADRI has approached its task using a formal business structure for its governance and works to a strategic plan and a business plan. Because it works within the national and international and jurisdiction-specific standards outlined elsewhere in this paper, it has endorsed these in a statement of principle entitled its functional *Framework, 2005-2007* (ADRI, 2005) under the headings, each fully referenced to the standards and tools in each member jurisdiction.

- Making & managing digital records
- Keeping digital records
- Transferring digital records to archives
- Using digital records and archives

Within this framework, ADRI is working on a suite of strategic tools, guidelines and best practice manuals and generic specifications that can be used or easily adapted for use across all members' jurisdictions.

As part of their commitment to ADRI, the Public Records Office of Victoria (PROV) and Queensland State Archives are jointly working to develop a generic business case for digital recordkeeping that can be used by records professionals as a basis for tailoring a business case to put to their own organization as needed. A project to develop a set of generic specifications for records management software functionality to be used as reference by developers is being jointly undertaken by the National Archives of Australia and Archives New Zealand. This project has been endorsed by the International Council on Archives as a project of international significance. In late 2006 a project to develop specifications for recordkeeping functionality in business applications will commence, undertaken by Queensland State Archives. This is a particularly interesting and important project, since many businesses cannot afford to implement another layer of software over their business applications for records management purposes. If records management functionality can be seamlessly incorporated into everyday business applications, capture and management of records will be greatly enhanced in business of all sizes. These generic specifications will be useful to agencies when making calls for tenders for software purchases.

The NAA and the PROV are jointly developing a draft Standard Transfer Format for Digital Records, to be agreed across all the member jurisdictions. When implemented, this will not only standardize the means of transfer of archival records from agencies to digital archival repositories, but will be an important step towards the interoperability necessary to implement e-government and inter-governmental cooperation. The draft, for which the members' comment period closed in April, 2006, describes a digital object that is acceptable for transfer and interoperable between systems, between agencies, from agencies to archives and within and between archives.

Collaborating beyond the immediate recordkeeping profession

Australian recordkeeping authorities have put a great deal of work into providing supporting tools for the relevant standards published by the national and international standards organizations, as well as for the mandatory policies and standards within each jurisdiction. But standards are of little use unless implemented and it is necessary to check that they are implemented and auditing implementation is a large and challenging task. To meet this need, Australian recordkeeping authorities have partnered with the Auditors-General of their jurisdictions, who include recordkeeping in their audit regimes. Two different but equally effective models are those of Western Australia and the Commonwealth government (Gibbs & Pearson, 2005). In Western Australia, the State Auditor-General is, by virtue of office, one of four State Records Commissioners. The State Records Commission reports directly to Parliament, as does the Auditor-General. Recordkeeping is included in the Auditor-General's annual audits of state and local government agencies. Thus the audits of recordkeeping compliance in Western Australia are done independently of the State Records Office. In the Commonwealth model, professional staff from the National Archives of Australia work with the Commonwealth Auditor-General to audit recordkeeping compliance in Commonwealth government agencies. The State Records Authority of NSW includes records management training in its audit requirements. In a standard on public offices' records management programs developed to accompany the NSW *State Records Act 1998*, the seventh of nine principles states that "The records management program should be staffed by personnel with appropriate skills and knowledge". This placed the focus on "monitoring and developing the pool of skills to be available in the organisation, rather than on defining skills or competencies that individual employees might be required to possess" (Roberts, 2004, p.2). Consequently it allows for audits to compare over time the continuing professional development of existing staff, and the number of staff with recordkeeping qualifications employed in New South Wales government agencies. This provision for training audits directly links the success of an organisation's records management program with the necessary professional knowledge gained through training and education.

Among the challenges facing the recordkeeping profession is the need to retrieve, capture and preserve records created in e-government or e-commerce transactions. Fully aware of this, the National Archives of Australia has partnered

with the Australian Government Information Management Office (AGIMO). AGIMO provides strategic advice on

- e-government, including the development, implementation and management of content management systems in government agencies;
- Development of seamless, customer-focused online services;
- Better practice: minimum standards and interoperability.

In 1997 NAA and AGIMO began to work together to develop and promote the AGLS metadata standard. All government agencies are required to use AGLS metadata to describe their websites in order to enhance the retrievability of government information made available to citizens via the Web. In 2002 AGLS was published as *Australian Standard AS5044: AGLS metadata element set*, in two parts, following the pattern of *AS ISO15489*. The first part is a *Reference description*; Part 2 is a *Usage guide*. The National Archives of Australia is the official Commonwealth government maintenance agency for the Standard and in this role makes a suite of advice and supporting tools available on its website.

Developing and implementing standards is not the only interest of the recordkeeping community, although the use of policy and standards is one of its major tactics for achieving its aims. Looking towards the future, anticipating and discussing strategies for dealing with structural issues and new technologies are also crucial to the profession. AGIMO holds regular seminars and community of practice meetings. Of particular interest to recordkeepers was a series of commissioned papers on *Collective accountability* to which Barbara Reed, eminent recordkeeping consultant and practitioner contributed a paper on *Accountability in a shared services world*, alongside other papers such as Tim Turner's *Accountability in cross-tier e-government integration* and discussions on the need for whole-of-government enterprise architecture as the key to interoperability within and across organizations (Croger, 2004).

Conclusion

In summary, the partnerships that the Australian recordkeeping profession has forged in the interests of raising the quality of recordkeeping are many and varied. They work with a range of influential partners to further the cause of accountable recordkeeping:

- With Standards Australia on a range of committees for the development and maintenance of standards to meet the needs of the profession;
- With the Auditors-General in their jurisdictions to ensure that agencies comply with recordkeeping legislation and standards;
- With AGIMO to strategically explore strategies and manage the development of recordkeeping in an e-government environment.
- With researchers to undertake research to develop tools and deepen understanding of the needs of the recordkeeping discipline.

The archives and records authorities work together to pool resources and expertise and to meet their common purposes, through vehicles that include

- CAARA
- ADRI
- state-based DRI groups

They also work with other heritage collecting bodies.

- CAARA is a member of the Collections Council of Australia working with libraries, museums and galleries to further common interests and jointly lobby government where their needs coincide.
- The NAA and the National Library of Australia work together on the issue of archiving websites, having agreed on a strategy to avoid duplication of effort in this endeavour. The NLA collects websites that resemble publications, of important cultural heritage. The NAA pursues its responsibility for archiving Australian government websites that are records or that generate records as transactions in the process of e-government (Gibbs, 2005).

The Australian recordkeeping community has proven that networking, formation of strategic partnerships and collaboration with colleagues are powerful tools for working to achieve the twin goals of accountable recordkeeping across governments and the preservation of our society's digital memory. This relatively small profession in Australia has achieved a great deal through cooperation, sharing expertise and pooling meagre resources. Through working together, it has earned an international reputation for professional leadership and innovation.

References

- Australian Digital Recordkeeping Initiative. (2005). *Framework 2005-2007*. Retrieved 20 August, 2006 from <http://www.adri.gov.au/subcontent.asp?scID=7>
- Australian Government Information Management Office. (2004). Retrieved 25 August, 2006 from <http://www.agimo.gov.au/>
- Australian Government Information Management Office. (2005). *Collective accountability*. Retrieved 25 August, 2006 from http://www.agimo.gov.au/publications/2004/05/egovt_challenges/accountability
- Business Services Training Australia. (2001). *BSB01: Business services training package, units of competency recordkeeping*, Business Services Training Australia, South Melbourne.
- Collections Council of Australia. (2005). Retrieved 25 August, 2006 from <http://www.collectionscouncil.com.au/>
- Council of Australasian Archives and Records Authorities. (2004). CAARA. Retrieved 20 August, 2006 from <http://www.caara.org.au/>

- Croger, P., McShane, R. and Appleyard, G. (2004). A realistic approach for developing a whole of government enterprise architecture. Discussion paper no.6 in *Future challenges for e-government: Collective accountability*. Retrieved 25 August, 2006 from http://www.agimo.gov.au/publications/2004/05/egovt_challenges/accountability/enterprise
- Cumming, K. (2002). Two peas in a pod: Comparison of ISO15489 and AS4390. *InfoRMAA quarterly*, 18 (1). 9-13.
- Gibbs, R. (2005). Archiving websites: the Australian experience. Paper presented at *Building Memory in the Global Age. XXXVIIIth International Conference of the Round Table on Archives*. 27-29 November, 2005. Abu Dhabi, United Arab Emirates. Retrieved 25 August, 2006 from <http://www.ica.org/biblio/abstract%20Ross%20Gibbs%20ENG.pdf>
- Gibbs, R. and Pearson, D. (2005). Integrating recordkeeping in Australian performance audits. Paper presented at *Building Memory in the Global Age. XXXVIIIth International Conference of the Round Table on Archives*. 27-29 November, 2005. Abu Dhabi, United Arab Emirates. Retrieved 25 August, 2006 from http://www.ica.org/biblio/Pearson-Gibbs%20abstract%20ENG_2.pdf
- Hoy, Marian. (2006). Recordkeeping competency standards: The Australian scene. Paper presented at *Education, Development and Tomorrow's Professionals: Society of Archivists Annual Conference* 5-8 September 2006, Lancaster.
- Hoy, Marian. (2004). Professional development and competency standards: Unravelling the contradictions and maximizing opportunities. Paper presented at *Archives, memory and knowledge: the 15th International Congress on Archives*, Vienna, 23-29 August, 2004. Retrieved 20 August, 2006 from http://www.wien2004.ica.org/imagesUpload/pres_121_HOY_SAE%2004.pdf
- Liddell, Anne. (2003). *The NAA experience of using AS 5090 – Australian standard for work process analysis for recordkeeping to support its DIRKS project*. Retrieved 26 August, 2006 from http://www.naa.gov.au/recordkeeping/rkpubs/fora/03Nov/AS_5090_paper.pdf
- National Archives of Australia. (2006). *AGLS*. Retrieved 26 August, 2006 from http://www.naa.gov.au/recordkeeping/gov_online/agls/summary.html
- National Archives of Australia. (various dates). *Archives advices*. Retrieved 20 August, 2006 from <http://www.naa.gov.au/recordkeeping/rkpubs/advices/index.html>

- National Archives of Australia and State Records Authority of New South Wales. (2001). *The DIRKS manual: A strategic approach to managing business information*. Revised 2003. Retrieved 20 August, 2006 from <http://naa.gov.au/recordkeeping/dirks/dirksman/dirks.html>
- National Finance Industry Training Advisory Body. 1997). *Records and archives competency standards*. Canberra: NFITAB.
- Picot, Anne. (2001) The story of the Australian recordkeeping competency standard. *Records management journal* 11(3), pp.143-153
- Records Continuum Research Group (2000). *Australian Recordkeeping Metadata Schema*. Retrieved 25 August, 2006 from <http://www.sims.monash.edu.au/research/rcrg/research/spirt/deliver/index.html>
- Records Continuum Research Group. (1998) *Recordkeeping metadata project*. Retrieved 25 August, 2006 from <http://www.sims.monash.edu.au/research/rcrg/research/spirt/index.html>
- Reed, B. (2004). Accountability in a shared services world. Discussion paper no.10 in *Future challenges for e-government: Collective accountability*. Retrieved 25 August, 2006 from http://www.agimo.gov.au/publications/2004/05/egovt_challenges/accountability/shared
- Roberts, D. (2004). Education and training in a new regime for government recordkeeping: A case study. Paper presented at *Archives, memory and knowledge: International Congress on Archives*, 23-29 August, 2004. Retrieved 25 August, 2006 from http://www.wien2004.ica.org/imagesUpload/pres_217_ROBERTS_D_SAE%2004.pdf
- Standards Australia. (1996). *Australian standard AS4390. Records management*. Sydney: Standards Association of Australia.
- Standards Australia. (2002a). *Australian Standard AS 5044:2002. AGLS metadata element set*. Sydney: Standards Australia International.
- Standards Australia. (2002b). *Australian standard AS ISO 15489:2002 Records management*. Sydney: Standards Australia International.
- Standards Australia. (2003). *Australian standard AS 5090: 2003 – Work process analysis for recordkeeping*. Sydney: Standards Australia International.
- Stephens, D. and Roberts, D. (1996). From Australia: The world's first national standard for records management. *ARMA quarterly*. 3-7, 62.

Turner, T. (2004). Accountability in cross-tier e-government integration. .
Discussion paper no.9 in *Future challenges for e-government: Collective
accountability*. Retrieved 25 August, 2006 from
http://www.agimo.gov.au/publications/2004/05/egovt_challenges/accountability/cross-tier