

The background is a dark blue gradient with a complex pattern of glowing, semi-transparent blue lines. These lines include straight vertical and horizontal lines, as well as curved lines that sweep across the frame, creating a sense of motion and depth. The lines vary in thickness and brightness, with some appearing as sharp, bright streaks and others as softer, more diffuse bands. The overall effect is reminiscent of a digital or scientific visualization, such as a data stream or a network diagram.

# AC<sup>+</sup>erm Project

Final Project Report



Arts & Humanities  
Research Council



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The AC<sup>+</sup>erm Project – Accelerating positive change in electronic records management' – is a research project carried out by the School of Computing, Engineering and Information Sciences in Northumbria University from 2007 to 2010. It aimed to investigate and critically explore issues and practical strategies to support accelerating the pace of positive change in managing electronic records.

The project focused on designing an organisation-centred architecture from three perspectives: (i) people, including vision, awareness, culture, drivers and barriers; (ii) working practices including processes, procedures, policies and standards; and (iii) technology in terms of the design principles for delivering effective recordkeeping.

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Accelerating Positive Change in Electronic Records Understanding issues and developing practical approaches

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# AC<sup>+</sup>erm Project

## Executive Summary

The management of electronic records has been a significant issue for organisations for more than two decades and, although various bodies have developed guidelines, standards and systems, the pace of change had been relatively slow (McDonald, 2005). The question is why?

This project investigated and critically explored issues and practical strategies to support accelerating the pace of positive change in managing electronic records - hence its name AC<sup>+</sup>erm (**A**ccelerating **+**positive **C**hange in **ERM**). The objectives were to:

- investigate the issues and problems of ERM
- challenge existing recordkeeping paradigms to position the development an appropriate practical paradigm for ERM
- develop and share examples of ERM strategies, tactics and practice; and
- develop a contemporary critical view of the state of ERM globally at both the research and practical levels.

It focused on three perspectives of designing an organisational-centred architecture for managing electronic records: (i) people, including vision, awareness, culture, drivers and barriers; (ii) working practices including processes, procedures, policies and standards; and (iii) technology in terms of the design principles for delivering effective recordkeeping.

ERM is extremely challenging; many questions need to be asked. To be realistic this project focused on the following ones:

- What progress has really been made in ERM in the wired and wireless office environment? What strategies, tactics and practical solutions are working? Why and how?
- What vision do organisations have for their office environment? What is their vision of recordkeeping in the context of their mission? What are the drivers and influencers – risk management, compliance, corporate governance, other issues?
- How well do organisations understand their 'business' processes? Do they understand how people work, how they create and use information, how they collaborate, how decisions are made? What are the implications for recordkeeping systems?
- What standards and models underpin approaches to ERM? What principles and practice from the paper world have been adopted or adapted?
- How can the necessary recordkeeping infrastructure of policies, standards and practice, systems and technologies, and people be assembled into an architecture that is organisation-centred? What principles of design underpin the technology that can deliver effective records management?

The project was conducted in phases over three years using a mixed methodology comprising:

- a comprehensive systematic review of the relevant literature validated by primary data from practitioners and academics (Jan 2007-Dec 2009)
- an investigation of three facets of designing an organisation-centred architecture for ERM, using a series of Delphi studies and a series of face-to-face colloquia (Jan 2008-Oct 2009)

- a major dissemination activity running throughout the project, using a variety of methods, based around a website and blog with use of tweets and emails to advertise web and blog updates (Jan 2007-Mar 2010).

The findings are therefore transferable and the outputs usable in different contexts by different organisations. Since recordkeeping in the e-environment involves different stakeholder groups (i.e. executives/senior managers, records professionals, IT/systems administrators and recordkeepers) and is trans-disciplinary, the project engaged people from multiple disciplines and all stakeholder groups. Participants included both academics and practitioners.

The data provide the largest global set of real evidence of its kind about ERM that supports, and in some cases refutes, what has been suspected for some time but has remained largely anecdotal. The findings provide some new insight into the issues, particularly in terms of the interrelationships between the three perspectives of designing an organisational-centred architecture for managing electronic records that were studied (people, process and technology); the emphasis on contextualisation, complexity and contingency; and the predominance of people issues. The methodological approach is innovative in the research methods used and their novel combination and application in the records management discipline.

The key headline findings that emerged about electronic records management are:

- few organisations and/or individuals have articulated a vision for ERM
- the people, process and systems/technology aspects of ERM are inextricably linked; though useful for the research design and as an analytical tool, the distinction between them is not one that can legitimately be drawn in modelling what actually happens
- people issues are predominant, fundamental and challenging as they concern culture, philosophical attitudes, awareness of RM and ERM issues, preferences, knowledge and skills
- records professionals may be part of the problem as well as part of the solution, e.g. they take the holistic view and have the principles and tools to manage records but their demands may be unrealistic or too constraining
- solutions for ERM are contextualised and complex
- the success and/or failure of ERM implementations can be contingent on the presence/absence of small or accidental factors, e.g. an individual; an event, coincidence or opportunity)
- there are few published *in-depth critical* case studies of success or failure, or post-implementation evaluation
- risk based approaches are needed if the challenges are to be addressed in a timely fashion and with the resources available in many contexts/organisations
- records management principles appear to be applicable for ERM, however practice needs to be adapted.

The project outputs include solutions that have worked, or not worked, related to the key issues facing the people, process and technology aspects of ERM. They derive from the experiences and expertise and perspectives of the Delphi participants. These will enable individuals or organisations to select solutions to try and the vignettes provide ready-to-use tools and models to develop contextualised tools when facing their own ERM problems or challenges. Both have been produced in a wide range of formats – text, pictures, video - to engage interest and to be more usable by practitioners and academics.

The innovative research methodology provides valuable knowledge and learning for future research in the records and wider information science disciplines. The headline findings about methodology are that:

- whilst it is possible and appropriate to use SLR methodology in an information science discipline, where the discipline has a wide variety of literature and limited peer reviewed and/or research based literature the task of reviewing it systematically is significant
- engaging *all* stakeholder groups in ERM *and* academics from *multiple* disciplines is challenging but vital and rewarding; it can be particularly difficult to engage senior managers and IT professionals. The use of a multi-disciplinary expert panel is extremely beneficial for peer review and overseas experts are valuable in bringing a non-UK perspective and raising the research profile internationally
- the combination of e-Delphi studies and related colloquia can be used successfully to engage a wide variety of stakeholders, from a wide geographic base, and gain feedback to validate, extend and evaluate findings throughout a research project and improve the outputs
- the combined use thematic and phenomenological analysis methods enables detailed data analysis and researcher interpretation of emergent issues
- adopting an ongoing dissemination using a website and blog is highly recommended for longer (2-3years) projects in fast moving subjects to share findings in a timely manner, maintain interest and engagement; however additional time needs to be built into project plans for final synthesis
- blogs cannot be relied upon for data collection.

This research project was timely and, based on the statistics collected and comments and emails received, it has been valuable and has had impact. It has provided an in-depth theoretical and practical assessment of ERM. It provides a range of different outputs for use in dealing with real world ERM problems facing organisations and individuals.

Further dissemination activities from this project, in the form of published articles, will contribute more synthesis of the results and learning.

## 1. Introduction

### 1.1. Research context

The management of electronic records has been a significant issue for organisations for more than two decades. And, for the last decade, records professionals have had access to guidelines, standards and systems developed by national archives, coalitions, professional associations and research groups. By the end of 2005, when this project was conceived, the e-government vision of countries such as the UK and Malaysia was not a reality. In the same year McDonald (2005) pointed out that the pace of change had been relatively slow. The question was why?

To realise change in electronic records management (ERM) we need to address two fundamental issues. First, we need to recognise that the world of work has changed radically and we need a better understanding of the way organisations, in all sectors, do 'business'. Successful electronic records management requires understanding working practices, business processes and organisational drivers. We need standards and practices not only for recordkeeping but also for the way we work today. Second, much recordkeeping theory and practice originates from the paper world and is being imposed onto the electronic world. We need to challenge the relevance of paper practices for the electronic world.

### 1.2. Research questions

ERM is extremely challenging; many questions need to be asked. To be realistic this project focused on the following ones:

- What progress has really been made in ERM in the wired and wireless office environment? What strategies, tactics and practical solutions are working? Why and how?
- What vision do organisations have for their office environment? What is their vision of recordkeeping in the context of their mission? What are the drivers and influencers – risk management, compliance, corporate governance, other issues?
- How well do organisations understand their 'business' processes? Do they understand how people work, how they create and use information, how they collaborate, how decisions are made? What are the implications for recordkeeping systems?
- What standards and models underpin approaches to ERM? What principles and practice from the paper world have been adopted or adapted?
- How can the necessary recordkeeping infrastructure of policies, standards and practice, systems and technologies, and people be assembled into an architecture that is organisation-centred? What principles of design underpin the technology that can deliver effective records management?

### 1.3. Aims and Objectives

The aim of the project was to investigate and critically explore issues and practical strategies to support accelerating the pace of positive change in managing electronic records. Hence its name, the AC<sup>+</sup>erm (**A**ccelerating <sup>+</sup>positive **C**hange in **ERM**) project. The objectives were to:

- investigate the issues and problems of ERM
- challenge existing recordkeeping paradigms to position the development an appropriate practical paradigm for ERM
- develop and share examples of ERM strategies, tactics and practice; and
- develop a contemporary critical view of the state of ERM globally at both the research and practical levels.

It focused on three perspectives of designing an organisational-centred architecture for managing electronic records: (i) people, including vision, awareness, culture, drivers and barriers; (ii) working practices including processes, procedures, policies and standards; and (iii) technology in terms of the design principles for delivering effective recordkeeping.

## 2. Methodology

### 2.1. Overall Project Approach

The AC<sup>+</sup>erm Project was consciously conducted within the terms of explicit research methodologies and methods and their underlying philosophies and paradigms. A mixed methodology was used, comprising mostly qualitative methods (recognising the range of views, experience, roles, expertise, challenges and practical solutions) but also some quantitative methods (involving the ranking of issues/solutions). The findings are therefore transferable and the outputs usable in different contexts by different organisations. To ensure rigour and consistency, this methodological approach was identified and developed before the research process was started; the agreed philosophical and methodological positions determined, or informed, the methods and tools appropriate for carrying out the research. (See *AC<sup>+</sup>erm Project: Philosophical, Paradigmatic and Methodological Underpinnings* for further details <http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/project/>).

The project was conducted in phases over three years:

- a comprehensive systematic review of the relevant literature validated by primary data from practitioners and academics (Jan 2007-Dec 2009)
- an investigation of three facets of designing an organisation-centred architecture for ERM, using a series of Delphi studies and a series of face-to-face colloquia (Jan 2008-Oct 2009)
- a major dissemination activity running throughout the project, using a variety of methods, based around a website and blog with use of tweets and emails to advertise web and blog updates (Jan 2007-Mar 2010).

Since recordkeeping in the e-environment involves different stakeholder groups (i.e. executives/senior managers, records professionals, IT/systems administrators and recordkeepers) (ISO 15489, 2001) and is trans-disciplinary, involving information management, humanities, social sciences, public policy, history, business management etc; the project engaged people from *multiple* disciplines and *all* stakeholder groups. Participants included both academics and practitioners.

### 2.2. Systematic Literature Review Phase

The first phase of the project comprised a major literature review of the topic of e-records management. The last comprehensive literature review on this topic was published in 1996 (Erlandsson, 1996).

The review was conducted using the systematic literature review (SLR) methodology, which had not previously been used in the records management field. The SLR is particularly well developed in the medical field, but its use is also increasing in social science disciplines.

Selected outputs from the SLR were used to inform the initial questions for the Delphi studies, as well as to provide practical information to enable action by users of the outputs.

An SLR aims for a more objective, rigorous approach to reviewing the literature. The objectivity and rigour comes from establishing elements *a priori* and following a standard process, particularly for assessing the quality of the literature and extracting relevant data (Centre for Reviews and Dissemination, 2001). The stages of a classic systematic review comprise:

1. framing the question for the review
2. identifying relevant literature
3. assessing the quality of the literature
4. summarising the evidence
5. interpreting the findings
6. writing a narrative report, including data tables, a bibliography and details of the review process.

## 2.3. Investigation Phase

The investigative phase of the project explored three facets of designing an organisation-centred architecture for ERM. These three facets – people issues, understanding work processes, and systems and technologies – were investigated in sequence, the People and Process phases taking place in 2008 and the Systems and Technology phase in 2009. Informed by the SLR, the investigations combined e-Delphi studies and face-to-face colloquia involving a mix of experts, disciplines and recordkeeping stakeholders.

### 2.3.1. Delphi Studies

The Delphi technique was developed in the 1950s at the Rand Corporation (Dalkey and Helmer, 1963), to gather a consensus of ‘expert’ opinion. In this project it was used to gather primary data from selected participants and develop a picture of ‘expert’ opinion on each facet. The electronic form enabled anonymous and geographically wide participation.

The investigation considered what (if any) vision organisations had for their office environment; their vision of recordkeeping in the context of their mission; the drivers and influencers for ERM; the barriers to implementing ERM; what progress had really been made in ERM; what strategies, tactics and practical solutions were working or not working. Aspects of the three facets considered in the course of the studies included:

- People:  
vision, awareness, culture, drivers, and barriers
- Process:  
business processes and practices; business systems (not only IT systems); workflow; information flow across the organisation as a whole and within parts of it; the information / records management processes as a sub-set of business processes
- Technology:  
design principles for delivering effective recordkeeping; line-of-business and office systems used by organisations; mobile technologies supporting mobile working; web-based technologies; multiple forms of information; citizen-based online transactions; personal use of computers and the Internet.

The three Delphi studies followed the same path, though differed somewhat in details, with approximately 20 participants per study. The questions for discussion were presented mostly in the form of word-processed questionnaires but at times as web-based survey questionnaires. The studies consisted of the following elements:

- one or more rounds to refine and discuss the issues arising from the SLR;
- a round where the issues were ranked in order of importance / urgency to address in order to accelerate positive change in ERM;
- one or more rounds to propose and discuss solutions to the issues as refined in the previous rounds;
- a round to evaluate the solutions according to certain set criteria.

The participants' responses were analysed using a range of different approaches (subject themes, numerical ratings, subjective explorations) to provide a broad view of the data. The primary method used was thematic analysis. The resulting analyses or summaries yielded a variety of 'standard' qualitative and quantitative outputs which were presented in textual, numerical, graphical, schematic and diagrammatic visual forms to support different cognitive styles. The analysis also informed the development of a series of vignettes, a type of output that crystallised aspects of the research findings in the form of tools or exemplars that could be of use to practitioners, users and other stakeholders. (See Section 3.5 Outputs and Appendix 1.)

During each Delphi Study some particularly interesting or challenging issues emerged, for example where there were divergent opinions and/or experience or where the participants raised questions/concerns. Some of these issues were examined in greater depth using the method of phenomenological analysis.

### 2.3.2. *Colloquia*

The analysis of the Delphi study data provided the basis for the discussions held in the series of free project colloquia, intended to facilitate further data collection and ongoing dissemination of results. These events also proved to be valuable focal points for discussion and interaction between records professionals, academics in the recordkeeping disciplines, and experts and users from a wider base of disciplines and groups.

The first aim of the colloquia was to validate and extend the Delphi studies through face-to-face discussions between a larger audience of participants. The two methods (of e-Delphis and colloquia) provided a sound balance in terms of data collection enabling expert opinion, experience and views on each issue to be gathered; practical solutions to be shared and refined, and partnerships to be built. The second aim was to keep delegates informed of our research progress and to share ongoing findings.

The first colloquium, focused on the outputs of the e-Delphi study on the people issues of ERM, took place in London on 09 October 2008. Just under 50 delegates attended and contributed to a series of discussion forums, adding to and extending the e-Delphi data.

The second colloquium, based on the e-Delphi study on the process aspects of ERM, was held in Birmingham on 26 March 2009. Over 30 delegates contributed to discussion forums and to a workshop in which they examined and commented on a number of prototype vignettes / tools based on the data gathered at that point.

The third colloquium, dealing with the results of the e-Delphi study on the systems and technology issues, was held in Edinburgh on 24 September 2009. Around 30 delegates explored the issues and solutions through discussion and use of some of the project vignettes / tools.

The fourth and final colloquium was a more substantial event, presented as the latest in the well-received Northumbria Witness Seminar Conference series. It was held on-campus at Northumbria University in Newcastle upon Tyne on 4 March 2010. A group of 50 delegates and witnesses from the wider information management discipline discussed and debated the links and synergies, actual and desired, between research and practice in the field of records and information management. The full proceedings of this colloquium are published separately as the Proceedings of the Third Northumbria Witness Seminar Conference (<http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/conf/wit10/>).

## 2.4. Dissemination Phase

In line with its aim to accelerate the pace of positive change in ERM, the project's findings were disseminated on a regular basis throughout its life. They were placed on the Project website, announced on the project blog, listservs and, later, via Twitter. It was hoped that such ongoing dissemination would emphasise the urgency of the ERM issue, influence change as the research proceeded, and encourage widespread discussion.

At the end of the project these outputs were refined or modified where necessary and collated into a more coherent form and uniform style for final publication.

See the Outputs and Findings section of the Project website for more details (<http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/>).

## 3. Findings

### 3.1. Dissemination Phase

The SLR covered journal and other literature on ERM published from 1996 to February 2009 in the records management discipline and other disciplines. 1756 items were reviewed, 536 in depth. The bibliographic details were captured in an Endnote database and the reviews captured in an Access database. The latter represents a resource for creating literature maps on aspects of ERM. During the project, reviews were published on:

- people Aspects
- process Aspects
- technology Aspects
- case Studies
- critical success factors.

These comprise brief summaries of items from the literature, organised under headings with bibliographic details. They are publicly available as documents on the website ([http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmare/erm/diss/diss\\_slr/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmare/erm/diss/diss_slr/)).

#### 3.1.1 Review of People Aspects

55 articles were coded as having a main focus of 'people' or as containing coverage of specific people topics (i.e. vision, people, partnerships, capacity building, change management). They covered the following aspects:

- societal Issues
- e-government ERM infrastructure
- ERM
- ERM research
- records professionals and other professionals
  - new roles and associated skills for records professionals
  - differing views on ERM between records professionals and other professionals
  - training in records management for other professionals
  - partnership working
- users / staff
  - wide range of staff and other stakeholders (patients, external contractors) using complex database systems
  - managing personal digital materials
  - attitudes and perceptions
  - awareness raising and training
- design
  - need for user-friendly ERMS
  - discussion and understanding among designers and end-users when designing ERMS
  - specification of socio-organizational requirements through metadata when designing ERMS
- ERM implementation
  - cost of ERM and lack of desire to fund this
  - change - caused and required
  - critical success factors
- ERMS implementation
  - problems
  - cultural change
  - critical success factors

### **3.1.2 Review of Process Aspects**

177 articles were coded as having a main focus of 'process' or as containing coverage of specific process topics, i.e. business processes, data protection, functional requirements, information access, legal and regulatory requirements, model for ERM, model for paper records, other model, risk, RM processes, standards. They covered the following aspects:

- the interaction between ICTs and processes: including ICTs needing to support business processes, affecting existing processes (including RM processes) and creating new processes; the need integrate ERM / ERMS into business processes and systems and also the continued need for some manual and human-based processes; the debate about whether business analysis / business process reengineering and development of RM infrastructure need to occur before, during or after ERM/ERMS implementation.
- records management / recordkeeping: including the lack of, breakdown of or poor RM policies and processes and the many reasons for this.
- electronic records and ERM which fell into two main categories relating to: international / national state of play, strategies, policies; and standards, specifications, guidelines.
- developing ERM principles and processes: including theory/models from research projects; ideas / issues about functional analysis, appraisal at the concept stage, automation of RM processes and others; debate about the applicability of traditional RM principles and processes in the e-environment and the gap between researchers, theorists and practitioners
- legal, business and social issues: including ensuring confidentiality of records, improving access, legal status and legal admissibility of e-records, e-discovery.

### **3.1.3 Review of Technology Aspects**

203 articles were coded as having a main focus of 'technology' or as containing coverage of specific technological topics. They covered the following aspects:

- electronic records management systems
- IT systems in the health field
- other types of IT systems (e.g. ECM, SharePoint, Web services etc)
- various technologies (e.g. visual analytics, voice technologies, digital pen and paper, smartcard)
- email / e-communications
- Web 2.0 technologies
- IT standards, frameworks, architectures, models
- RM standards, frameworks, architectures, models
- long term storage of E-records / preservation
- studies of user behaviour / user acceptance and IT systems
- usability of IT systems
- digital divide
- legal issues / regulatory requirements
- digital signatures
- IT system design
- interoperability
- integration
- implementation of IT systems - who / what has to change
- IT systems not up to the task

- IT adoption / alignment / investment / value
- IT vendors / IT marketplace
- historical development of ERM

### **3.1.4 Review of Case Studies / Case Examples**

106 articles were coded as being a case study or a case example of RM / ICT developments / implementations. They were organised under the following aspects:

- development of RM/ERM
- implementation of an EDRMS
- implementation of RM software system (other than EDRMS)
- development of other systems/software
- use of IT systems

### **3.1.5 Review of Critical Success Factors**

73 articles were coded as containing coverage of critical success factors (CSFs). CSFs identified were:

- approaching implementation projects not just as IT projects
- gaining commitment and support of Chief Executive Officers
- aligning projects with business objectives
- ensuring a project has a clear agenda
- demonstrating benefits
- planning procurement and making it requirement-driven
- integrating systems and technology
- involving all levels within the organisation and external stakeholders
- communication
- change management
- planning and project management
- prior existence/development of necessary 'infrastructures'
- piloting and testing
- sharing expertise
- involving end-users
- training and support for users
- policies and guidelines.

### **3.1.6 ERM resources list**

A large collection of ERM resources - Web sites and documents - were obtained during the process of conducting the SLR, as well as from suggestions made by participants in or 'followers' of the project. These resources cover the following categories:

- universities, colleges, and educational institutes
- archives, record offices, and libraries
- books and publishers
- journals
- government agencies (except for archives, records offices, libraries)
- major non-government bodies with normative or policy-making powers
- organisations and consortia (profit and non-profit)
- professional recordkeepers' associations / organizations

- consultancies
- individuals—Websites and blogs
- reports, journal articles and conference papers

They are publicly available as a document on the website, as the Electronic Records Search Engine (a custom Google search engine) and as Sqworl Groups.

### 3.2. Delphi Studies and Colloquia

The e-Delphi studies and related colloquia successfully engaged participants from all stakeholder groups and academics from multiple disciplines, although engagement of IT staff and senior managers was the most challenging. In total there were 55 active Delphi participants and 156 colloquium attendees. The Delphi data is unique, rich and nuanced comprising ~5300 specific themes. It captures global views and experience on ERM that is mostly not in the public domain.

#### 3.2.1 People Facet

This was the first facet of the investigative phase and related to the human and people aspects of managing e-records. It included vision; awareness; culture; drivers and barriers; and the implication of such factors for the implementation of recordkeeping systems.

From a starting point of the 36 people issues that had emerged from the SLR, the participants identified a very long list of issues. The analysis revealed eight groups of issues:

- four about the actors/stakeholders (i.e. executives and management, records professionals, other professionals and staff/users)
- three about systems (RM/IM systems; e-environment and ERM systems)
- one about the environment and processes (implementation of ERM and systems requires change and change management).

When asked to rank these according to urgency to address in relation to accelerating change in ERM, the top three were:

1. CEOs, executives and management lack understanding of RM and their role within that
2. records professionals need appropriate knowledge/skills, approaches and relationships for the e-environment
3. RM and IM principles and practices need to be a valued and an integral part of the organisation.

Many solutions to the eight groups of issues were suggested – both those that work and those to avoid – together with reasons why and how they did or did not, would or would not work, with examples from their own experience and/or perspective. Solutions for the highest ranked urgent issue (above) included:

*Solutions to TRY because they had lead to success in ERM:*

- make senior managers responsible for missing records
- link solutions to dealing with real problems
- promote/educate about RM/ERMS using individual benefits as examples
- demonstrate problems of poor RM using real case examples
- demonstrate value/benefits of RM/ERMS using real case examples

- promote/educate about RM/ERMS using individual business processes and requirements as examples
- present holistic approach to IM rather than focus narrowly on RM
- design ERM system that is easier to use
- establish RM under legal corporate function
- establish single, board-level management role with IM as single corporate function
- ERM systems requires organisation and planning from start
- build 'virtual team' of key influencers and specialists
- engage personally with executives and senior managers
- involve in ERM systems development from the outset
- make executive sponsorship a key personal mission

*Solutions to AVOID because they impede progress:*

- compliance as a driver – senior managers may accept risk of poor recordkeeping
- use inaccurate 'scare stories' or poorly-understood legislation to support case
- focus more on professional records concerns than on stakeholders' aims and expectations
- ERM systems for senior managers that cover activities previously undertaken by secretaries
- bombard senior managers with information and ideas
- use generic, corporate RM selling points
- situating RM under the IT corporate function
- working from the bottom up
- ERM implementation as a personal project of senior manager(s)
- go it alone as an organization's records manager
- proceed with solution without executive backing
- submit wordy reports

A number of themes emerged during this facet some of which were selected for further analysis, using the method of Phenomenological Analysis. These were:

- actors and contexts
- the records management 'bottom line'
- change management
- cultural change
- essential skills for records management
- management class change
- professional 'turf wars'

These together with the other outputs from the Delphi Study, including the responses to online survey and Colloquium 1, are available in several documents on the website (See [http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi\\_diss/people\\_dis](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi_diss/people_dis) and [http://www.northumbria.ac.uk/static/5007/ceispdf/coll\\_1\\_3.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/coll_1_3.pdf))

### **3.2.2 Process Facet**

The second facet of the investigative phase, relating to the process aspects of managing e-records, included business processes and practices; business systems (not only IT systems); workflow; information flow across the organisation as a whole and within parts of it; the information / records management processes as a sub-set of business processes.

20 process related issues arose from the literature review and first two Delphi rounds; three further emergent issues were identified by the project team; some of the categories could be

amalgamated into more general headings. Conveniently, the issues ranked first and second fell naturally into such an amalgamated category. They were:

1. organisation-level records management policies  
Most experts thought organisational-level policies were important and useful, with the proviso that they need to be fit-for-purpose and specific to the organisational context, not just formalities or 'tick-the-box' exercises. Benefits of 'fit-for-purpose' policies include consistency and data sharing. However, policies are only useful if they are implemented, and this is dependent on organisational culture. The need to align with national strategies is very context-specific, dependent on the sector involved.
2. the priority of developing the RM infrastructure over ERM/ERM systems implementation  
The responses to this were mixed. Achievement of this may not be possible because of resource constraints and lack of skills, etc. However, this may be redundant if records management is embedded into the IT platform and occurs automatically

The solutions proposed to these issues / problems were not analysed in exactly the same way as for the people solutions but what emerged was that, although this phase was ostensibly about processes, it became clear that many were people related. In fact, so many of the solutions concerned human rather than purely process aspects that the outputs for this round were subdivided in this way. The solutions (to try and/or to avoid) suggested for the most important issue to address (number 1 above) related to:

- accountability and responsibilities
- education and development of non-RM staff
- developing a holistic vision and approach for RM/ERM
- less, not more
- organisational
- planning and methods:
- relationships
- 'big stick'
- marketing
- vision and commitment.

Two topics emerged - records management principles and methods, and what is really 'new'? - which were the subject of phenomenological analyses. Full details of these and the other outputs and findings from this phase are available on the web page for the process facet and Colloquium 2 (See [http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi\\_diss/process\\_diss/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi_diss/process_diss/) and [http://www.northumbria.ac.uk/static/5007/ceispdf/coll\\_1\\_3.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/coll_1_3.pdf)).

### **3.2.3 Systems and Technology Facet**

The final facet to be investigated related to the systems and technology aspects of managing e-records. It considered issues in terms of the design principles for delivering effective recordkeeping, and included line-of-business and office systems used by organizations; mobile technologies supporting mobile working; web-based technologies; multiple forms of information; citizen-based online transactions; and personal use of computers and the Internet.

Coincidentally, 20 groups of issues also emerged about systems and technology. The one ranked most urgent/important to address was 'deciding on the appropriate approach to ERM within a given context' and the following solutions *to try* were suggested:

- stand-alone electronic document and records management systems (EDRMS)
- EDRMS integrated with office systems
- EDRMS integrated with line of business systems
- EDRMS integrated with Web 2.0 technologies
- use of office systems' existing functionality
- use of line of business systems' existing functionality
- use of enterprise content management (ECM) systems
- some combination of these approaches

Two interesting issues that emerged were trade-offs and cloud computing. Trade-offs concerned priorities, which are not easy to balance or manage. The trade-offs were between:

- prioritising between usability, functionality, integration / interoperability
- prioritising initial / ongoing hard costs over everything else
- prioritising ease of implementation over everything else.

On cloud computing issues that emerged were around if/when/where and/or how to use cloud computing and what the records management issues/implications were. Views varied and included:

- too early to say what approach should be taken
- do not use external cloud computing facilities
- use cloud computing for administrative records only
- use cloud computing for administrative & core business records only
- use cloud computing for all records
- apply a proactive approach to tackle the RM issues of cloud computing
- apply a reactive approach to tackle the RM issues of cloud computing
- do not apply RM to the cloud.

These were explored further in the third colloquium. From the discussion on the appropriate approach to ERM, it was concluded that some purposeful combination of the various individual approaches given (see above) was the way to go. Combination was really the only approach that could work—everything depends so much on sector, money, context, etc. Additionally, different combinations work for different areas of the same organisation and EDRM may work for processing prescription payments, but a different solution in the same organisation for policy development or creative work. More is being asked of EDRMS: originally supposed to just speed up process, now being asked to do collaboration and compliance as well. Several of the individual approaches were not seen as good solutions but would still be likely to be introduced or applied because of cost or risk appetite (e.g. stand-alone EDRMS). Solutions that are not necessarily adequate or appropriate get chosen for various reasons—big difference between those that were actually most appropriate and those most likely to be implemented (whether through familiarity, management choice, whatever).

From the discussion on trade offs, it was clear that choice of a specific trade off was, in every case, dependent on type and size of organization, and on business drivers.

A more detailed description of the process and outputs for the Delphi study, along with links to the outputs themselves, can be found on the web page for this facet (See [http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi\\_diss/systech\\_diss/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi_diss/systech_diss/) and [http://www.northumbria.ac.uk/static/5007/ceispdf/coll\\_1\\_3.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/coll_1_3.pdf)).

### 3.3. Vignettes

The findings from the Delphi studies informed the development of a series of vignettes. 11 vignettes were produced of seven types: fridge magnets; phenomenological analyses; rich pictures; Snakes and Ladders game; narrative story; videos; mind maps; and word clouds. The full list is as follows:

1. snakes and ladders: opportunities and pitfalls in records management
2. phenomenological analysis: actors and contexts
3. phenomenological analysis: the bottom line for records management
4. phenomenological analysis: principles and methods of records management
5. phenomenological analysis: essential skills for records management
6. mind map: ERM solutions
7. rich picture: managing risk
8. narrative / story: privacy, security and access
9. word cloud: solutions to 'people' issues in managing e-records
10. fridge phrases:
11. video

Their purpose was not only to provide ready-made tools for use, for example distilling the challenges and problems and present possible solutions, though many of them can be treated in this manner, but also to suggest models or templates for building tools whose content can be tailored to suit a given context. Detailed explanations of the tools, along with suggestions for use and where to access any resources needed to develop them, are included in the vignette document output. For example, the video provides a light-hearted summary of AC<sup>+</sup>erm in the form of a 'news bulletin' on the project, posted to YouTube ([www.youtube.com/watch?v=ZYbzU8\\_C2cY](http://www.youtube.com/watch?v=ZYbzU8_C2cY)). However, the vignette also explains that it "is not restricted to any particular audience, but it is not really suitable for formal uses and contexts - it is not a slick, professional tool and part of its value resides in the disarming quirkiness of the minimalist animation and characterization, mechanical sound of the synthesized voices, etc. Suggested uses include: publicizing activities, projects, policies etc; as training aids, to introduce or summarize more detailed material; breaking the ice or introducing material in training sessions, workshops, etc; collaborative creation of short videos during such sessions or as part of a team-building exercise." The vignettes are accessible in one document <http://www.northumbria.ac.uk/static/5007/ceispdf/vig.pdf>.

### 3.4. Building a vision of ERM

What did not emerge from the Delphi studies was any vision of ERM in the future so at the technology colloquium and following the colloquium, via another e-Delphi study, participants were invited to try to develop a shared vision.

Participants were given an example of a "ridiculous" fantasy vision to illustrate what we were trying to achieve whilst not, hopefully, limiting or influencing their thinking. The "ridiculous" vision was illustrated using three draft tools (vignettes):

- in text using *fridge phrases*
- visually as a *rich picture*
- in text as a *story* illustrating an aspect(s) of the vision and showing how it would work in reality.

The participants were asked to use the same draft vignettes to develop and articulate their vision.

The participants came up with the following visions:

“ERM will be valued by everyone as an essential enabler. It will be automatic, ubiquitous and intrinsic without being a burden”

“Develop and embed information management in human behaviour using easy solutions and simple processes which align with IT and social responsibilities”

“Design simplified information structure and e-environment; effective and dynamic communication; encourage mutual understanding and ownership; create successful revolution”

“We have a dream where traditional RM methods are dead and RM re-invents itself and becomes embedded in all business processes”

These visions and their further exploration and illustration can be found in the outputs for the third colloquium which can be found on the web page for Colloquia (See [http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmare/erm/diss/coll\\_diss/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmare/erm/diss/coll_diss/) and [http://www.northumbria.ac.uk/static/5007/ceispdf/coll\\_1\\_3.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/coll_1_3.pdf)).

### 3.5. Project Outputs

The main outputs were:

- a significant project website ([www.northumbria.ac.uk/acerm](http://www.northumbria.ac.uk/acerm))
- a project blog (<http://acerm.blogspot.com/>) and a twitter presence ([http://twitter.com/Northumbria\\_RM](http://twitter.com/Northumbria_RM))
- the findings
- details of the methods used (SLR, e-Delphi, colloquia)
- the vignettes,
- an ERM resources list, searchable using a customised Google search engine and browsable via a series of Sqworl groups
- proceedings of the final colloquium debating practitioner and academic views on the value and impact of research in the records and information discipline, published in a combination of text, audio, video.

The final outputs from the various stages of the project comprise:

- analyses of the literature reviewed
- questions and analyses of responses from the e-Delphi studies
- details of colloquia programmes and discussions
- vignettes
- details of ERM resources, made available as a document as well as a customised Google search engine
- presentations at conferences and other events
- details of journal articles.

In total 87 documents of varied forms, containing the findings, vignettes and methods, were shared as they were developed during the project, for both practitioners and academics to use. At the end of the project these were re edited into a more coherent form and uniform style and 16 final documents, plus this final project report, were archived on the project's website to remain as a useful source of information.

Email and verbal evidence shows that both practitioners and academics have and are using the materials developed and/or are adopting/adapting the ideas and concepts for their own

purposes; e.g. some FARMER members are already using AC+erm outputs in their teaching; a PhD student emailed to learn more about the use of the Delphi methodology, following a presentation at the SAA Conference Research Forum, Texas 2009; an archivist is using outputs for strategy development.

Many papers and presentations were given at conferences, seminars, meetings, and similar events, often by invitation. These constituted a significant mode of disseminating Project findings and of seeking collaboration and support from further audiences. Among the formal outputs of the project will be further journal articles. The details of these, together with other related work/activities based on the subject of the research project, are given in Appendix 2.

All of the outputs have been made freely accessible on the web under a Creative Commons Licence.

### 3.6. Project Evaluation

Members of the Expert Panel and FARMER (Forum for Archives and Records Management Education and Research) were invited to evaluate the project mid-way through. The Expert Panel's feedback was particularly helpful in confirming what had worked well, what could be refined, what further work would be useful, and in raising the issue of the 'missing vision' for ERM. Comments included: "The AC+erm research project has been valuable in that ... it didn't focus unduly on one dimension of the infrastructure (e.g. technology) over the other. Three important and distinct infrastructure-related themes - technology, process, and people - were addressed equally" and "one of the greatest benefits of AC+erm was the opportunity to assess the use and value of a wide variety of research methods. Few other e-records initiatives have explored the use of multiple research methods to such an extent and even fewer have taken the steps required to assess their adequacy. In many respects, the experience gained from employing these research methods will be as valuable as the AC+erm research results themselves."

A formal project evaluation was conducted during the final colloquium. It revealed, for example, that 55% of delegates had already used outputs from the project, 88% said they will use them in future and a delegate wrote "[I] find the whole project - and its formats, really groundbreaking." 91% of the delegates who had used/accessed materials from the project strongly agreed/agreed they had contributed to their knowledge of ERM; 78% and 60% strongly agreed/agreed they were, respectively, influencing their own practice/service provision or that of their organisation. (Over 90% of delegates were from outside of academia).

## 4. Conclusions

The AC<sup>+</sup>erm project successfully investigated and critically explored issues and practical strategies to support accelerating the pace of positive change in managing electronic records, using an approach that was as innovative as the subject matter under investigation. It challenged existing recordkeeping paradigms to position the future development of an appropriate practical paradigm for ERM; it developed and shared examples of ERM strategies, tactics and practice; and developed a contemporary critical view of several aspects of ERM at both the research and practical levels. The research was robustly designed, ambitious (in terms of the number and type of participants), challenging (in terms of its scale and timing) and not without risk. It required adaptation and pragmatic decisions to deliver on time.

The project data is the largest global set of real evidence of its kind, not only in terms of the primary data gathered from the e-Delphi studies and colloquia but also the collation of data from the systematic literature review. The research has contributed to knowledge and understanding in three main ways:

1. the data provide an evidence-base that supports, and in some cases refutes, what has been suspected for some time but has remained largely anecdotal
2. the findings provide some new insight into the issues, particularly in terms of the interrelationships between the three perspectives of designing an organisational-centred architecture for managing electronic records that were studied (people, process and technology); the emphasis on contextualisation, complexity and contingency; and the predominance of people issues
3. the research methods used and their novel combination and application in the records management discipline.

The key headline findings that emerged about electronic records management are:

- few organisations and/or individuals have articulated a vision for ERM
- the people, process and systems/technology aspects of ERM are inextricably linked; though useful for the research design and as an analytical tool, the distinction between them is not one that can legitimately be drawn in modelling what actually happens
- people issues are predominant, fundamental and challenging as they concern culture, philosophical attitudes, awareness of RM and ERM issues, preferences, knowledge & skills
- records professionals may be part of the problem as well as part of the solution, e.g. they take the holistic view and have the principles and tools to manage records but their demands may be unrealistic or too constraining
- solutions for ERM are contextualised and complex
- the success and/or failure of ERM implementations can be contingent on the presence/absence of small or accidental factors, e.g. an individual; an event, coincidence or opportunity)
- there are few published *in-depth critical* case studies of success or failure, or post-implementation evaluation
- risk based approaches are needed if the challenges are to be addressed in a timely fashion and with the resources available in many contexts/organisations
- records management principles appear to be applicable for ERM, however practice needs to be adapted.

The project outputs include solutions that have worked, or not worked, related to the key issues facing the people, process and technology aspects of ERM. These solutions derive

from the experiences and expertise and perspectives of the Delphi participants representing a wide range of stakeholders and organisations. These outputs will enable a person or organisation to select solutions to try when facing their own ERM problems or challenges. They have been produced in a wide range of formats – text, pictures, video - to engage interest and to be more usable.

Another set of project outputs comprise the vignettes. This was an innovative approach to presenting findings and their style and format means they are usable by practitioners and/or academics and potentially different stakeholder groups. Presenting them both as ready-to-use tools and models to develop contextualised tools, increases their value and longevity.

The research methodology was innovative in a number of ways and, as a result, provides valuable knowledge and learning for future research in the records and wider information science disciplines.

The first innovation was the novel use of a SLR in records management. The methodology details and experiential learning from conducting the SLR will be shared for other information science disciplines via future articles. The key conclusion to draw here is that, whilst it is possible and appropriate to use SLR methodology in an information science discipline, where that discipline has a wide variety of literature and limited literature that is peer reviewed and/or research based, then the task of reviewing it systematically is significantly greater.

The second innovation was to engage participants from *all* stakeholder groups in ERM *and* academics from *multiple* disciplines. This was challenging and in some respects its success was limited (e.g. in engaging senior managers and IT professionals). However, it was vital and rewarding. The use of an expert panel comprising (12) members from multiple disciplines and stakeholder groups was also an extremely beneficial approach to peer review both for the team and the research per se. The overseas experts John McDonald and Adrian Cunningham were invaluable, bringing a non-UK perspective and raising the profile of the research internationally.

A third innovation was the combination of e-Delphi studies and related colloquia to extend and evaluate the findings that engaged participants nationally and globally. This approach proved to be very successful in terms of engaging a wide variety of stakeholders, from a wide geographic base, and gaining feedback that not only validated findings and improved the outputs but, crucially, enabled the subsequent phases of the project to be refined. Gaining and maintaining participants' engagement in the e-Delphis was challenging and necessitated using very tight timelines, which put pressure on the research team to complete the data analysis and on the participants to respond.

The fourth innovation was the use of the combination of thematic and phenomenological analysis methods to analyse the data, enabling the participants' data to be themed, in great detail, and extending the analysis to capture the researchers' interpretations of selected emergent issues.

The emphasis and effort afforded to the major dissemination strategy running through the entire project was well rewarded. Publishing findings and vignettes via a website and blog was extremely successful (see statistics Appendix 1). It is a strategy we would adopt in future and one that can be highly recommended to other researchers undertaking a long project in a fast moving subject, such as ERM. Its success, value and impact far outweigh the delayed submission of planned peer-reviewed articles.

This research project was timely and, based on the statistics collected and comments and emails received, it has been valuable and has had impact. It has provided an in-depth

theoretical and practical assessment of ERM. It provides a range of different outputs for use in dealing with real world ERM problems facing organisations and individuals.

Further dissemination activities from this project, in the form of published articles, will contribute more synthesis of the results and learning.

## 5. References

Centre for Reviews and Dissemination (2001) *Undertaking systematic reviews of research on effectiveness: CRD's guidance for those carrying out or commissioning reviews*. 2<sup>nd</sup> edition. York: University of York, CRD. <http://www.york.ac.uk/inst/crd/report4.htm> [Note: New edition is now available]

Dalkey, N.& Helmer, O. (1963) 'An experimental application of the Delphi method to the use of experts', *Management Science*, (3), pp.458–467.

Erlandsson, A. (1996). *ERM: A literature review*. ICA Studies 10. Paris: International Council on Archives. <http://www.ica.org/biblio.php?pdoid=5>

Northumbria University (2010) *Transforming Information & Records Management through Research & Development? A Witness Seminar Conference*. Northumbria University, Newcastle upon Tyne 4 March. Newcastle upon Tyne: Northumbria University.

## APPENDIX 1: List of outputs and statistics demonstrating use, value and impact

### **Project website** ([www.northumbria.ac.uk/acerm](http://www.northumbria.ac.uk/acerm))

used for publicity, ongoing publication of findings, methods, and vignettes, it will act as a permanent resource from the research. It contains 17 consolidated documents (from the 87 published during the life of the project) providing the final project outputs and describing how the project was conducted; it will be updated as further outputs are produced in the future. The site received 11,340 visits (which tripled annually from year 1 indicating continued interest), 4,078 visits to team members' individual web pages and over 2500 queries to the custom Google search engine created for the ERM resource list compiled from the project.

### **Project blog** (<http://acerm.blogspot.com/>) for publicity, to share and collect data.

Contains 94 blog posts that received 31 comments and 3 followers; there were 6000+ unique visitors, 1600+ returning visitors from 30+ countries.

### **Twitter presence** ([https://twitter.com/Northumbria\\_RM](https://twitter.com/Northumbria_RM))

Made 67 tweets, attracting 56 followers and 11 lists.

**Vignettes** i.e. tools or exemplars for academics/practitioners to use.

[http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/diss\\_vig/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/diss_vig/)

11 in total covering all three facets of ERM (people, processes, technology) in different formats which are not only ready-made tools for use but also suggest models or templates for building tools whose content can be tailored to suit a given context. The full list is:

1. snakes and ladders: opportunities and pitfalls in records management
2. phenomenological analysis: actors and contexts
3. phenomenological analysis: the bottom line for records management
4. phenomenological analysis: principles and methods of records management
5. phenomenological analysis: essential skills for records management
6. mind map: ERM solutions
7. rich picture: managing risk
8. narrative / story: privacy, security and access
9. word cloud: solutions to 'people' issues in managing e-records
10. fridge phrases:
11. video

All outputs are freely available under a Creative Commons licence

### **Methodology - Project Approach**

<http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/project/>

### **Outputs and Findings**

<http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/>

#### i. **SLR**

[http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/diss\\_slr/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/diss_slr/)

- People Aspects [http://www.northumbria.ac.uk/static/5007/ceispdf/slr\\_people.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/slr_people.pdf)
- Process Aspects [http://www.northumbria.ac.uk/static/5007/ceispdf/slr\\_process.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/slr_process.pdf)
- Technology Aspects [http://www.northumbria.ac.uk/static/5007/ceispdf/slr\\_tech.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/slr_tech.pdf)
- Case Studies [http://www.northumbria.ac.uk/static/5007/ceispdf/slr\\_case.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/slr_case.pdf)

## ii. e-Delphi Studies

[http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi\\_diss/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi_diss/)

- **People**

[http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi\\_diss/people\\_dis/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi_diss/people_dis/)

Thematic Analysis [http://www.northumbria.ac.uk/static/5007/ceispdf/del\\_pe\\_ta.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/del_pe_ta.pdf) includes:

lists of questions for all rounds; preliminary thematic analysis of issues (Round 1); ranking of issues in terms of urgency/importance (Round 3 – graphs and tables); solutions to issues: approaches that work and approaches to avoid (Round 4 – PDF files of mind-maps, including text-only version; word clouds); responses to online survey (text and tables)

Phenomenological Analysis

[http://www.northumbria.ac.uk/static/5007/ceispdf/del\\_pe\\_pa.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/del_pe_pa.pdf) of 7 selected topics (Round 5 in combination with data from previous rounds):

- actors and contexts
- the records management 'bottom line'
- change management
- cultural change
- essential skills for records management
- management class change
- professional 'Turf Wars'

- **Process**

[http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi\\_diss/process\\_diss/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi_diss/process_diss/)

Thematic Analysis ([http://www.northumbria.ac.uk/static/5007/ceispdf/del\\_pr\\_ta.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/del_pr_ta.pdf)) [http://www.northumbria.ac.uk/static/5007/ceispdf/del\\_pe\\_ta.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/del_pe_ta.pdf) includes:

lists of questions for all rounds; thematic analysis of issues (Round 1); ranking of issues in terms of urgency/importance (Round 2 – graphs and tables); solutions to issues: approaches that work and approaches to avoid split between those that focused on process aspects and those that addressed primarily human aspects (Round 5 - evaluation of solutions (text – collated responses to the survey)

Phenomenological Analysis

([http://www.northumbria.ac.uk/static/5007/ceispdf/del\\_pr\\_pa.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/del_pr_pa.pdf)) of two topics selected for examination: Records Management principles and methods; and What is really 'new'?

- **Systems and Technology**

[http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi\\_diss/systech\\_diss/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/delphi_diss/systech_diss/)

Thematic Analysis ([http://www.northumbria.ac.uk/static/5007/ceispdf/del\\_te\\_ta.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/del_te_ta.pdf)) includes:

lists of questions for all rounds; summary of participant responses (Round 1); ranking of issues in terms of urgency/importance (Round 2 – graphs and tables); summary of solutions to issues (Round 3); evaluation of solutions (Round 4 - text – collated responses to the survey)

## iii. Colloquia

[http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/coll\\_diss/](http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/coll_diss/)

Colloquia 1-3 [http://www.northumbria.ac.uk/static/5007/ceispdf/coll\\_1\\_3.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/coll_1_3.pdf)

Colloquium 4 [http://www.northumbria.ac.uk/static/5007/ceispdf/coll\\_4.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/coll_4.pdf)

iv. **ERM Resources**

<http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/resources/>

Resource list [http://www.northumbria.ac.uk/static/5007/ceispdf/resourcelist\\_2009\\_11.pdf](http://www.northumbria.ac.uk/static/5007/ceispdf/resourcelist_2009_11.pdf)

Custom Google Search Engine for ERM

<http://www.google.com/cse/home?cx=013466523144167055048:kyttraq2tw4&hl=en>

Sqworl groups <http://sqworl.com/u.php?user=2047>

## APPENDIX 2: Articles, conference papers, presentations (in reverse chronological order)

### Articles

- McLeod, J. (2009) 'Accelerating positive change in e-records management: the AC+erm project at Northumbria University', *ARC Magazine (Society of Archivists)*, (233), pp.24.
- Hardiman, R., Childs, S. & McLeod, J. (2009) 'Transformation through research? The AC+erm Project and ERM', *Records Management Bulletin*, (151), pp.3–7.
- Childs, S. McLeod, J & Hardiman, R. (2009) *Accelerating positive change in ERM – an empirical toolkit of solutions. Annual UKAIS Conference*. Oxford, 31 March–1 April. UK Academy for Information Systems Conference Proceedings. AIS (Association of Information Systems) Electronic Library. <http://aisel.aisnet.org/ukais2009/18/>

### External Presentations

- Hardiman, R. (2009) *The AC+erm project. Society of Archivists Conference*. Bristol, 2 September.
- McLeod, J. (2009) *AC+erm: Accelerating positive change in ERM. Society of American Archivists Third Annual Research Forum*. USA, Austin, Texas, 11 August.
- Hardiman, R. (2009) *Transformation through research? The AC+erm Project. Records Management Society Annual Conference*. Brighton, 19–21 April.
- Childs, S. McLeod, J & Hardiman, R. (2009) *Accelerating positive change in ERM – an empirical toolkit of solutions. Annual UKAIS Conference*. Oxford, 31 March–1 April.
- Childs, S. (2009) *The AC+erm Project: A Brief Tour. EDRM in Practice '09*. Birmingham, 24 January.
- Hardiman, R. (2008) *The AC+erm Project: A Brief Tour. Records Management Society London Group meeting*. London, 19 November
- McLeod, J. (2008) *Toolkits for Advancing Practice. RMAA Post Convention Seminar*. Australia, Perth, 24 September 2008.
- McLeod, J. (2008) *Toolkits for Advancing Practice. RMAA Post Convention Seminar*. Australia, Melbourne, 16 September.
- McLeod, J. (2008) *ERM in a Web 2.0 world: accelerating positive change. IIM Seminar*. Australia, Sydney, 11 September.
- McLeod, J. (2008) *Bridging the gap: adopting and adapting principles to advance practice. RMAA Conference*. Australia, Sydney, 8–11 September.
- McLeod, J. (2008) *Accelerating positive change in e-records management. Society of Archivists Conference*. York, 28 August.
- McLeod, J. (2008) *Records management principles & practice in the post-modern world. Records Management Society Conference*. Edinburgh, 21–22 April. [AC+erm project referred to as example of UK research]
- McLeod, J. (2007) *ERM: accelerating the pace of change. Records Management Society, Scotland Group meeting*. Edinburgh, 11 January. [See also RMS website for meeting report by E Pringault-Adam <http://www.rms-qb.org.uk/sigs/scotland/meetings/820>]

### Internal Presentations

- Childs, S. (2009) *e-Delphi Methodology. SCEIS Seminar, Northumbria University*. Newcastle, 25 March.
- McLeod, J. (2008) *AC+erm project: electronic records management. SCEIS Research Forum, Northumbria University*. Newcastle, January.
- Childs, S. (2007) *Systematic Literature Review Methodology. SCEIS Seminar, Northumbria University*. Newcastle, 21 November.

## Presentations on related ERM topics

- Icelandic Records Management Association, Reykjavik, Iceland, 9 April 2010 (PI invited to present on the project and run seminars on ERM topics)
- CILIP North East seminar, Newcastle, 29 September 2009 (PI gave invited seminar on ERM using project outputs)
- North East Records Management Forum meeting, Newcastle, 26 June 2009 (PI gave invited presentation on RM and EDRMS futures)
- EDRM in Practice Workshop 2009, Birmingham, 24 January 2009 (Research Fellow chaired and presented)
- What next for digital RM and preservation? CILIP Executive Briefing on Digital Records Management and Preservation, London, 29 October 2008 (PI's opening session on strategic options)
- Records Management Association of Australia (RMAA) regional post-conference seminars (Melbourne 16 September, Perth 24 September) and IIM Sydney Branch breakfast briefing (11 September) 2008 (PI)
- Records Management Society Conference, Edinburgh, 21-22 April 2008 (PI's keynote on research was the first time this conference had explicitly included research in its programme)
- Society of Archivists Conference, Belfast, 28-31 August 2007 (PI on research)

### See Outputs and Findings

- Conferences and Publications:  
<http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/conf/diss/>
- Presentations – Slides: <http://www.northumbria.ac.uk/static/5007/ceispdf/pres.pdf>