AC⁺erm Project

People Issues and Solutions to Use or Avoid
Synthesis Using the Cynefin Framework

The AC⁺erm Project – Accelerating positive change in electronic records management' – ran from 2007 to 2010 and aimed to investigate and critically explore issues and practical strategies to support accelerating the pace of positive change in managing electronic records.

It focused on designing an organisational-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.
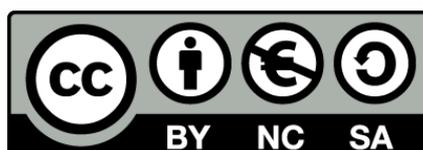
The Cynefin synthesis activity was undertaken in 2012 to 2013, after the project completed.

CONTENTS

AC⁺erm Output

People Issues and Solutions to Use or Avoid – Synthesis Using the Cynefin Framework

Background   A wealth of qualitative data was obtained by the AC+erm project, comprising an extensive range of ERM issues and problems with associated solutions that, in the Delphi participants' experience, had worked or not worked. Though the data was analysed and presented in a wide variety of forms (e.g. textual categorized themes, tables of ranked numeric data, phenomenological reflective prose, mind maps, word clouds, rich pictures, narratives, games), freely available from the project website, anecdotal evidence in feedback and comments from users indicated they were unsure about how to apply the findings in their own contexts. A different way of synthesising and presenting the findings was needed so they could be more readily used by practitioners in their own contexts. The Cynefin framework was selected to undertake this synthesis. The Cynefin framework is explained in the second section of this document.

This synthesis uses data relating to people issues and solutions from the systematic review of literature and from the three Delphi studies. Each Delphi study focused on one facet of the research: people; processes; technology. For each Delphi study, the first round of questions was informed by the findings from the systematic literature review. Early rounds of questions focused on the relevant ERM issues; later rounds focused on solutions - to try or avoid - that could be used to address the issues. People issues and solutions were identified from all three studies, not just from the people Delphi. The data comprise the themes from the first order analysis of the raw data.

Issues: The data on the people issues comprise 446 themes: 128 from the systematic literature review, 318 from the Delphi studies. Of these, some were duplicated across the different Delphi studies and the literature. This data was re-analysed using the Cynefin framework to produce the ERM framework, i.e. a Cynefin framework populated with ERM issues. This ERM framework is presented in the third section of this document.

Solutions: The data on the solutions comprises 1,160 themes: 871 from the people Delphi study (all those proposed) and 289 from the process and technology Delphi studies (only those relevant to addressing people issues). Though the Delphi participants proposed the solutions in response to questions about specific issues, there were only a few categories of solutions. The solutions for every issue are drawn from some or all of these categories, and no solution only related to one issue. Therefore, there is a many-to-many relationship between issues and solutions, i.e. for each issue there are many solutions and each solution is applicable to many issues. Additionally, Delphi respondents were asked to propose both solutions to use and solutions to avoid. The data shows examples of the same solution being both one to use and one to avoid. The Delphi respondents were drawing on their own experiences, and an overall conclusion from the AC⁺erm project was that tactics and solutions are contextualized and contingent, i.e. they depend on an organisation's specific context (it's history, its current culture and existing circumstances). The categorised solutions are presented in the fourth section of this document.

Publications:

- McLeod J, Childs S, Hardiman R (2011). Accelerating positive change in electronic records management: headline findings from a major research project, *Archives and Manuscripts*, 39(2):66-94

This article outlines the 10 headline findings from the AC⁺erm project.

- McLeod J, Childs S (2013). The Cynefin framework: A tool for analyzing qualitative data in information science? Library & Information Science Research, 35(4) DOI: http://dx.doi.org/10.1016/j.lisr.2013.05.004

This article describes how the Cynefin framework process was applied to the issues data, and discusses the applicability of Cynefin in research in the wider information management field.

- McLeod J, Childs S (2013). A strategic approach to making sense of the wicked problem of ERM, Records Management Journal, 23(2), 104-135. DOI: http://dx.doi.org/10.1108/RMJ-04-2013-0009

This article presents, and discusses, the ERM framework and re-conceptualises the ERM challenge as a 'wicked' problem.

- Childs S, McLeod J (2013). Tackling the wicked problem of ERM: using the Cynefin framework as a lens. Records Management Journal 23(3): 191-227. DOI: http://dx.doi.org/10.1108/RMJ-07-2013-0016

This article presents four examples of how Cynefin and the ERM framework could be used in practice: (i) Selecting the right solution for the issue (tactical); (ii) A strategic approach to systems selection; (iii) Managing chaotic issues; (iv) Planning a project or initiative.

Full-text copies of this publications are available from the NRL http://nrl.northumbria.ac.uk/, Northumbria University's open access repository to research outputs.

Nature of Output   Explanation of the Cynefin framework

People issues mapped into Cynefin framework domains - the ERM framework

Categorised list of solutions

Cynefin Framework

The Cynefin [1] framework was developed by Snowden and colleagues. It is a framework which helps decision makers to make sense of a range of business problems and situations, in different dynamic contexts, and to take appropriate action. The conceptual thinking that underpins the framework draws from knowledge management and complexity science.

Cynefin comprises five domains (Figure 1) representing the types of situations or environments that organisations typically experience and need to respond to. The domains are predicated on the construct of order. The ordered domains are labelled simple and complicated, the un-ordered ones complex and chaos and the fifth domain, the central area, is the domain of disorder. It is important to appreciate that un-order is not lack of order (i.e. its opposite) but a different type of order; order that is not directed or designed but 'emergent'. The characteristics of the domains are summarized in Table 1 based on Snowden and colleagues' many publications.

References

Kurtz, C.F., & Snowden, D.J. (2003). The new dynamics of strategy: Sense-making in a complex and complicated world. IBM Systems Journal, 42, 462-483.

Snowden, D. (2005). Strategy in the context of uncertainty. Handbook of Business Strategy, 6, 47-54.

Snowden, D. (2010). Summary article on Origins of Cynefin. Retrieved from http://cognitive-edge.com/uploads/articles/The_Origins_of_Cynefin-Cognitive_Edge.pdf

Snowden, D.J., & Boone, M.E. (2007). A leader's framework for decision making. Harvard Business Review, (November), 69-76.

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[1] "Cynefin, pronounced ku-nev-in, is a Welsh word that signifies the multiple factors in our environment and our experience that influence us in ways we can never understand." (Snowden and Boone, 2007)
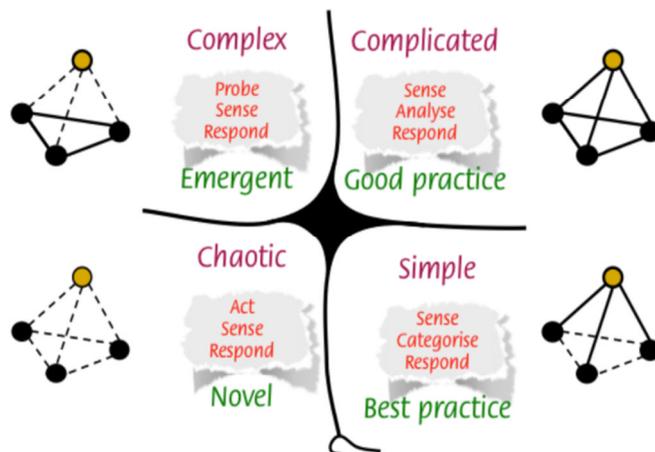

Figure 1. Cynefin framework from Snowden (2010, Part 7)
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Notes:
- the domain of disorder is at the centre of the figure
- the tetrahedrons represent connection/networks in organisations; solid lines show strong connections, dotted lines show weak connections between a manager (at top) and staff (at base)

	Domain			
	Simple	**Complicated**	**Complex**	**Chaos**
Characteristics	Ordered, stable, repeatable	Ordered, stable, discoverable	Un-ordered, fluid, unpredictable	Un-ordered, turbulent
	Clear cause and effect evident to everyone	Cause and effect not evident to everyone	Cause and effect seen in retrospect, not in advance	No clear cause and effect
	Right answer	More than one right answer	An answer/solution may exist but don't know what this is	No right answer/solution
	Domain of efficiency	Domain of experts	Domain of emergent patterns – perceived but not predicted	Domain of rapid response
Decision model	Known knowns	Known unknowns	Unknown knowns	Unknown unknowns
	Sense ➔ Categorise ➔ Respond	Sense ➔ Analyse ➔ Respond	Probe ➔ Sense ➔ Respond	Act ➔ Sense ➔ Respond
Resultant actions	Best practice	Good practice	Emergent practice	Novel practice
Techniques	Standard operating procedures Process re-engineering	Scenario planning Business intelligence Systems thinking	Complex adaptive systems thinking	Crisis management
Management style	Hierarchical - directive	Oligarchic - consensual	Information - consensus	Decisive - directive
Work pattern	Co-ordination	Co-operation	Collaboration	Compliance
Connections / networks in the organization	Strong connections between the centre (managers) and the constituents (workers); weak connections between individual constituents (workers)	Strong connections between the centre (managers) and the constituents (workers); strong connections/ networks between individual constituents (experts)	Weak connections between the centre (managers) and the constituents (workers); strong connections/ networks between individual constituents (workers)	Weak/no connections between the centre (managers) and the constituents (workers); weak/no connections between the individual constituents (workers)

Note: Disorder domain: Items are located here when it is unclear which of the other domains are appropriate. Multiple perspectives are predominant, and for a given context discussion and consensus building would be needed to relocate items from disorder into one of the other domains

Table 1: Summary explanation of the four Cynefin domains: simple, complicated, complex, chaos

People Issues Mapped into Cynefin Framework Domains - the ERM Framework

Each domain is presented with associated meta-themes and themes

Contents of This Section

SIMPLE DOMAIN

Number of individual themes (before accounting for duplication) = 152 out of 446 (34%)

Meta theme: RM / ERM / ERMS implementation – critical success factors

Scope note: To achieve good RM/ERM, or to implement an ERMS, respondents identified certain actions or activities as required or necessary or critical success factors. Conversely some issues were identified as barriers to this process: barriers and CSFs are the different sides of the same coin. The individual CSFs/actions (themes) covered here fall into the simple domain. *[Contrast with those under this meta-theme in the complex domain]*

Standards/policies
Barriers:
- Standards and policies lack coverage of RM

CSFs:
- Need international standards/requirements for ERM
- Records professionals need to influence such standards etc. in their organisation
- Organisations should create policies for Web 2.0

Management support
Barriers:
- Lack of management support results in poor RM processes

CSFs:
- Management support results in adoption and implementation of RM policies and processes

Planning and project management
Barriers:
- IT professionals lack of planning for RM within IT projects

CSFs:
- ERM/ERMS implementation requires strategic level preparation, proactive planning, project management, piloting and testing

Resources
Barriers:
- Lack of time, staff resources (clerical and RM professionals), equipment, infrastructure etc. for ERM/ERMS implementation

CSFs:
- Prior existence/development of necessary 'infrastructures'

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Control of staff
Barriers:
- Records management processes are poor or lacking in e-environment because of-lack of enforcement
- BPR problems/failure points: allowing opt out by staff

CSFs:
- Preventing work rounds; requiring/enforcing compliance with new procedures/systems

Benefits
Barriers:
- Lack of recognition of the benefits of RM/ERM/ERMS

CSFs:
- Need clear benefits - benefits of ERM/ERMS include: efficiency gains; access time saving for individual users; increased confidence in information (retrieved) by users
- Demonstrate benefits to: senior/middle managers, business units, each staff member
- Provide access rights for staff

Allocation of responsibilities
Fact:
- Additional recordkeeping responsibilities for all staff
- In the past specific staff had responsibilities for recordkeeping processes

CSFs:
- Requires allocation of RM roles and responsibility

User involvement
Scope note: What managers do to involve staff, i.e. the mechanisms they set up for user involvement. Contrast this with buy-in in the Complex domain. Buy-in is a user behavioural response
Barriers:
- IT systems design: lack of needs analysis and user involvement
- BPR problems/failure points: involving staff after the event
- Sometimes end-users didn't find the time to be involved

CSFs:
- Staff involvement in IT systems design; involvement of records professionals, end-users
- Staff/user involvement in ERM/ERMS implementation at all levels within the organisation and with external stakeholders; involvement of business analysts, information/records professionals, information architects; involvement of business owner, end-user

Guidance
- Clear guidance for staff on information/data privacy/security requirements
- Organisations should create staff guidance on Web 2.0

Other issues
Barriers:
- The length of the ERMS implementation process is a barrier
- BPR problems/failure points: personnel changes in the IT contractor

CSFs:
- After ERMS implementation: disseminating good practice
- After ERMS implementation: using people-related success criteria

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Meta theme: Awareness of RM / ERM

Scope note: Managers' and staff awareness (or lack of awareness) of RM/ERM and what it comprises. *[Contrast with attitudes/perceptions covered in the complex domain]*

Fact
- Staff and records professionals do not use the same terminology for RM
- Staff engage in recordkeeping without realising it

Barriers
Users:
- Staff lack knowledge of RM/ERM
- Staff lack understanding, and need to be made aware, of their recordkeeping responsibilities
- Staff do not understand they are responsible for information and its quality
- Staff are lacking in awareness of information assets and liabilities
- Information asset registers give rise to a narrow view of information assets by staff
- Staff lack awareness of the need to synchronize electronic and paper records
- Records management processes are poor or lacking because of lack of understanding of staff responsibilities
- Cloud computing: lack of clarity from a user point of view about where the information really exists
- Lack of understanding on the part of society of the special demands of electronic records

Experts:
- IT professionals lack of understanding of recordkeeping
- Librarians do not understand RM requirements

CSFs
- ERM requires understanding by all staff
- Staff need to understand the risks of poor ERM
- Business process analysis requires good understanding of business processes and information requirements by business owner

Meta theme: Training
Scope note: Lack of training, provision of poor quality training and need for training in RM/ERM

Barriers
Staff:
- ERM systems implementation and maintenance significantly neglects training
- ERMS implementation: training frequently lacking in quality and scope
- Lack of evolution of recordkeeping education
- Automation of business processes: lack of staff training
- Records management processes are poor or lacking because of poor training

Experts:
- Masters degree programmes for records professionals do not provide the required ECM project skills and thorough understanding of the IT world
- IT professionals: recordkeeping is not taught on degree courses

CSFs
- Training in ERM for all stakeholders
- ERM education and awareness raising with policy makers
- National strategies for information management/records management – Implementation requirements education and support

Staff:
- Training, awareness raising and support for users
- Staff need to be made aware of the importance of RM and IM
- Staff need training in RM basics
- Information/data privacy/security requirements: training is required
- Business processes automation requires good training
- Data Protection requires that staff be given specific advice and training in the retention of information/records
- Cloud computing: users need training in the risks to the organisation if information is distributed and unmanaged outside the organisations IT infrastructure
- Developing and using automatic RM processes in IT systems require getting users to understand and use templates
- Training strategy should require that training is provided to staff when they are first employed and whenever new versions are introduced

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- RM professionals need to make records management understandable to others
- ERM systems implementation and maintenance requires training of staff by skilled trainers as well as systems experts
- Training requires follow-up and reinforcement
- Training should be reinforced through a variety of options for self-study
- Good training results in adoption of organisational policies by staff

Experts:
- Need to build ERM skills into the RM/archival profession
- Training and CPD programmes on ERM for the RM/archival profession
- Better education/training on the application of traditional RM principles in changing environments is required by records professionals
- Records professionals require specialisation in IT or legal aspects
- Records professionals require basic and advanced IT knowledge/skills
- RIM professions need training in IT
- Education programmes for records professionals should provide skills in training
- Extend RM/ERM knowledge to other professions
- Education programmes for IT professionals and systems designers should include knowledge of recordkeeping
- IT professionals - require basic RM knowledge/skills

Meta theme: Data protection / confidentiality

Scope note: Requirements for data protection and confidentiality of information

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- Data Protection requires the accommodation of both rights and obligations
- Data Protection requires that staff be given specific advice and training in the retention of information/records
- Need to ensure the confidentiality of records, particularly of sensitive records such as health records

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Meta theme: Digital signatures

Scope note: Use (or lack of use) of digital signatures

Reasons given for lack of use of digital signatures
- lack of vision
- lack of knowledge

Meta theme: Non-IT processes

Scope note: Non-IT processes are still required to conduct business in the electronic environment. The individual non-IT processes (themes) given here fall into the simple domain. [*Contrast with those under this meta-theme in the complex domain*]

- Additional non-IT processes required to conduct business in the electronic environment:
    - face to face/phone communication
    - signatures (manual)
    - managing staff duplication
    - personal development
- Developing and using automatic RM processes in IT systems, but human input is still necessary

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BORDER BETWEEN SIMPLE AND COMPLICATED DOMAINS

No issues identified

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COMPLICATED DOMAIN

Number of individual themes (before accounting for duplication) = 108 out of 446 (24%)

Meta theme: Dimensions of ERM

Scope note: ERM is about people, process, and technology, not IT alone

- ERM is about people, process, and technology
- Implementation projects are not just IT projects

Meta theme: The experts

Scope note: The experts involved in ERM comprise RIM professionals, IT professionals, business professionals, legal professionals. Their role and the nature of their discipline are covered here. Personal attitudes/perceptions of experts are covered in the complex domain

Fact
- The wide range of stakeholders involved in e-government
- Wide range of staff and other stakeholders (patients, external contractors) using complex database systems
- Different professions need to retain different types of records

Barriers
- Varying views on the helpfulness of the distinction between records, information and data
  - Different views on the distinction by different professionals cause confusion.
  - Managers and end-users tend not to make such distinctions.
- Confused accountabilities for managing the information lifecycle
- A "medieval guild approach" by different professional groups is not relevant to the allocation of tasks within the electronic environment

The experts - records professionals
Implications:
- Records professionals may have to compromise on RM principles and methods.
- RIM professionals' RM role threatened by other professions as ERM emerges
- If records professionals are seen to only cover records not information, then the wider value of their expertise is not recognised.
- Records management staff are now entirely engaged in information consulting roles rather than managing records systems, which are mostly run by third parties
- Records professionals focus on quality RM because forensic capability removes the need to focus on risk

Barriers:
- Split between archivists and record managers detrimental in face of challenges of ERM
- Gap between the researchers, theorists and the practitioners
- Disjunction between RM theorist and RM practitioner understanding of ERM aspects
- RIM/RM/archival professions struggling with ERM
- Recordkeeping approach of records professionals is bottom-up, without an understanding of the top-down view
- Records professionals have an ongoing, linear focus
- Records professionals often lack the skills to manage their changing roles
- Records professionals have insufficient voice to enable delivery of the full potential benefit of their contribution to organisational IM strategy

CSFs:
- Legal practices lag behind technology: EU governmental action is required, and records professionals should input their views

Opportunities:
- New role for RIM professionals to play in e-environment
- Records professionals' knowledge can enhance other professionals roles and outputs

The experts - IT professionals
Barriers:
- IT professionals have a project-based focus
- IT systems did not cope well with complex situations because of using the IT department to lead projects
- IT systems design should involve understanding of user behaviour, and input from records professionals and end-users, but this didn't happen because IT professionals usually led projects, and were too focussed on the technology side
- IT do not fully understand what ERM is

Opportunities:
- IT professionals skills base expansion to working directly for the business

The experts - business professionals
Barriers:
- Business do not fully understand what ERM is

Meta theme: ERM research
Scope note: Need for, and building, of ERM research capacity

- Lack of ERM research
- Need for ERM research
- Building national ERM research capacity
- ERM research looks to the disciplines of archival science, history, law, sociology and information science
- Gap between the researchers, theorists and the practitioners

Meta theme: ERM infrastructure
Scope note: Need for, and building of, ERM infrastructure

- Building ERM into national e-government programmes
- Building national ERM infrastructure
- Need to develop national RM/archival professional infrastructure for ERM
- Building ERM capacity in an organisation

Barriers
- RM not considered in e-government initiatives
- National strategies for information management/records management lack the end user perspective
- Development of the RM infrastructure is needed before ERM/ERMS implementation, but this is a luxury: usually piecemeal approach because of resource constraints and lack of skills

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Meta theme: Design of RM / ERM systems

Scope note: Requirements of RM/ERM systems; design of systems; what constitutes good design; problems with systems

Problems with systems

- IT automation of business processes doesn't work well for human intensive tasks
- Organisations use IT for areas requiring human intervention/judgment
- In practice, IT systems design rarely involves understanding of user behaviour, and input from records professionals and end-users
- User involvement in systems design is good in many ways, but users each have their own agendas and wants/requirements, and so might pull a development project in too many different directions if not careful.
- Lack of consultation of staff causes existing business processes to become poor RM processes in the e-environment
- It is problematic to satisfy both users and organisations
- Users lack of comfort about choice between security and usability
- Poor quality brings legal implications for staff
- Reasons given why IT systems did not cope well with complex situations: too much focus on the technology
- It is easy for ERM to be circumvented
- ERM systems
  - Are excessively complex
  - Provide little payback for staff
  - Lack of accuracy in records causes user disenchantment
  - Control may cause conflict with informality and spontaneity, and requires a balance between control and flexibility
- BPR problems/failure points
  - Omission of information sharing aspects
  - Omission of human aspects
- Poorly designed systems lead to:
  - Creation of silos
  - Creation of workarounds
  - Use of manual processes to get a contrived result
  - Use of both the old manual system and the new automated system
  - Work processes and user behaviour having perforce to adapt to the system
- Users' frustrations with IT systems within organisations is a driver for use of Web 2.0 technologies
- Staff get frustrated with a corporate desktop experience which seems outdated compared with their experience of home computing

Good design

- Tools should be intuitive and simple
- Usability should be a key design criteria for IT systems
- Understanding of actual work processes and user behaviour are key design criteria
- Understanding of how people actually use IT systems can be used in design and implementation of such systems
- IT systems designed, or adaptable, to match work processes, user behaviours and preferences

Requirements

- CSF for EDMS/ERMS is good system design
- Need for user-friendly ERMS
- Easy to use RM systems

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- Need for better, more intuitive user interface
- Intuitive search and display
- Improved access to records
- Enable user assessment of the meaning and context of records
- Removal of recordkeeping burden for staff
- ERM systems requires easy, automatic recordkeeping by staff
- RM by records professionals, not by staff
- Role-based BPR
- Specification of socio-organizational requirements through metadata when designing ERMS
- Alignment of privacy/information security concerns with records
- In Web 2.0 systems, users are responsible for the management/tagging of the information
- Managing personal digital materials

Benefits
- IT used to re-engineer business processes, results in fewer complaints
- Forensics gives users more confidence in RM processes and e-records
- The risks brought by poor-quality RM can be reduced by ERM
- ERM encourages information sharing, which ultimately results in more effective and efficient systems
- Good software results in staff adoption

BORDER BETWEEN COMPLICATED AND COMPLEX DOMAINS

Number of individual themes (before accounting for duplication) = 28 out of 446 (6%)

Meta theme: Recordkeeping is difficult
Scope note: The difficulty of undertaking recordkeeping, particularly in the e-environment, is because of both its complicated nature (the systems required to do it) and its complex nature (the predominance of challenging people issues)

- Recordkeeping is difficult

Meta theme: Change
Scope note: Covers two aspects: (i) ERM causes change; (ii) Implementation of ERM/ERMS requires change. The change covers both work processes and human attitudes/behaviour

- Change - causes disruption of the routine that enables people to manage their lives
- Most staff have proved to be amazingly resilient in the face of constant electronic change
- Records professionals lack of understanding of change in the e-environment

ERM causes change
- ERM causes cultural change in organisations
- ERM causes change in organizational status and power relations
- ERM changes the relationship between managers and staff
- Users are in the midst of rapid change as their daily tools have become electronic and software constantly evolves
- User expectations of the e-environment is that things will change
- ERM causes changes in work practices
- Web 2.0 changes work practices and user attitudes
- E-environment has resulted in less face-to-face, informal contact with colleagues, which can weaken working relationships
- File shares and email systems means most users can easily find information without using a formal record keeping system

- ERM does not necessarily cause change but it can accelerate change

Implementation of ERM/ERMS requires change
- ERMS implementation requires realistic expectations about change
- Implementing ERMS is about cultural change
- ERM requires cultural change
- ERM requires staff to be already acclimatized to cultural change
- Improvement of RM processes requires culture shift of staff resulting in understanding and compliance
- ERM requires end-users to change to working together
- Implementation of digital signatures needs cultural change
- Design and implementation of IT systems requires all 'elements' [stakeholders] to change in some way, depending on the specific context
- RM functionality needs to be embedded in other IT systems (line of business, office, mobile etc.) as this creates a better cultural change and RM buy-in
- Organisations take the opportunity of a new IT system to change work processes, implemented through the system, so users have to change
- Change perceptions of staff using current system before ERM/ERMS implementation

COMPLEX DOMAIN

Number of individual themes (before accounting for duplication) = 143 out of 446 (32%)

Meta theme: People dimension of RM / ERM
Scope note: RM/ERM is about people not technology

- RM is about people not technology
- Human aspects are required to conduct business in the electronic environment
- ERM impacts on all staff

Meta theme: RM / ERM and society
Scope note: Role of RM/ERM in society, and its societal importance

- Societal importance of recordkeeping
- Role of recordkeeping in society
- Information and records are generated by, and represent, the lives and activities of people
- Choices about what to record, and what records to keep and archive, are political acts
- Ethics related to ERM
- Lack of understanding on the part of society of the importance of recordkeeping
- Lack of understanding on the part of society of the special demands of electronic records
- Involvement of politicians in IT system decisions is detrimental

Meta theme: RM / ERM and organisational culture
Scope note: RM/ERM culture in organisations; inclusion of RM/ERM into organisational culture

- RM and IM need to be part of an organisation's culture
- The CSF for ERM is the organisational culture, and it's the end result that matters not the technology used to get there
- Lack of recordkeeping culture causes failure of EDRMS projects in organisations
- Organisational level RM policies are important/needed but there are cultural issues of understanding and applying such policies
- Requirements for integration of EDRMS with other IT systems include cultural mindset
- Culture of fear in organisations gives rise to a perception that ERM systems are unreliable and that data will be lost when IT system go down

Meta theme: Attitudes / perceptions of managers and staff
Scope note: The attitudes and perceptions of individual managers and members of staff towards RM/ERM. *[Contrast with awareness of RM/ERM covered in the simple domain]*

Importance and of value of RM/ERM
Neutral:
- Recordkeeping staff need to be convinced of its importance, in traditional as well as electronic formats
- Perception of the importance of RM causes good RM processes

Negative:
- The value of RM and IM is not perceived within organisations
- Relevance of ERM is not recognized by managers
- Managers lack of understanding of the value of records professionals' expertise
- RM and IM is not seen as important by staff
- Staff are unaware of the value of information
- Requirements of organisational policies that are difficult to use leads to lack of value

Positive:
- Information/data privacy/security requirements raises organisation's interest in record protection
- RM and IM is considered a high priority by staff as well as records professionals, but they do not use the same terminology
- Once staff understand what is meant by RM, they are often already managing their own records in some form and to some degree

Perceptions of RM/ERM
Neutral:
- Non-records professionals have entirely different views about recordkeeping
- Most users want the records that they need to be readily available, and do not think of the needs or requirements of co-workers
- E-records are easy to create and staff want to manage the records themselves (even if they are unaware that they are records)
- End users in organisations see the records as 'theirs', not as a corporate resource
- Control of e-communication conflicts with the spontaneity and informality that make it so useful and popular in the first place
- Everyone desires all-embracing solutions

Negative:
- Perception that there is no need for recordkeeping as information is always right and always available on the internet
- IT systems do not cope well with complex situations because of the perception of IT as a panacea
- Staff have learned to become justifiably sceptical about new IT solutions
- Negative perception by staff of EDRMS implementations because of excessive requirements
- User resistance to additional RM responsibilities
- ERM is perceived as a management fad
- RM and IM good practice is not seen by staff as bringing individual benefits, but rather as a burdensome overhead
- Staff believe ERM to be time-consuming and wasting time more effectively spent elsewhere
- Staff perceive ERM as a threat
- Staff fear that ERM is unreliable
- Efficient systems can cause perception of job losses
- Digital signatures, compared with paper signatures, were seen as easier to copy, easier to forge, of lower evidential weight, less trustworthy, less able to be validated in the future

Expectations of IT systems
High:
- Client expectations of the speed/level of service by all organisations (public and private)
- Users expectations of data privacy/security

- Information/data privacy/security requirements causes expectations of good RM within organisations
- Organisations/users expectation of trust in ERM systems
- User expectations of high quality, intuitive software interfaces
- Users expectation of assisted, easy to use, flexible access
- Staff have a raised expectation that IM can provide the simple and effortless search and retrieval capabilities of the Internet
- Staff get frustrated with a corporate desktop experience which seems outdated compared with their experience of home computing
- People are used to the flexibility, ease of use, communication and sharing of Web 2.0 technologies that they experience in their personal lives. They expect IT to be like that in the workplace.
- Staff have high expectations when new processes, such as cloud computing, are introduced

Unrealistic:
- IT systems do not cope well with complex situations because of unrealistic expectations
- People must have realistic expectations of what IT can actually do.
- Failure of all-embracing/'all singing all dancing' systems to meet expectations causes staff lack of satisfaction
- ERM systems implementation requires realistic expectations about users

Meta theme: Attitudes / perceptions of experts
Scope note: The experts involved in ERM comprise RM professionals, IT professionals, business professionals, legal professionals. Their personal attitudes/perceptions are covered here. Their role, and the nature of their discipline are covered in the complicated domain

- Other professions/stakeholders have different perceptions of ERM compared with RIM professionals
- Risk awareness is perceived differently by different professions

RIM professionals
- Records professionals have an introspective focus on their own methods
- Records professionals must avoid a passive approach or victim mentality
- Some records professionals' approach to RM was too inflexible
- RM practices lag behind technology because of the conservatism of RM professionals
- Automatic RM processes in IT systems are difficult to achieve in practice because of the suspicions of records professionals
- RIM professions see many challenges to ERM
- Challenges for records professionals in understanding their new role in managing and monitoring information repositories
- Records professionals lack recognition of end user perspectives
- Records professionals' professional jealousy limits scope of training offered to staff

IT professionals
- IT professionals' perception of ERM can cause challenges
- IT perceive few challenges to ERM
- Complexity of people and technical issues in RM are not understood by IT professionals or vendors
- IT professionals' mistaken assumption that they understand RM can be dangerous and costly for organisations. There is a tension between this assumed understanding and actual lack of understanding of many basic RM principles

Business professionals
- Business professionals' perception of ERM can cause challenges
- Business perceive few challenges to ERM

Legal professionals
- Legal practices lag behind technology because of the perceptions and conservatism of legal professionals

Meta theme: Behaviour
Scope note: How people actually manage records and information. Their attitudes and perceptions manifested in their actions.

Problems are mostly behavioural
- Cognitive aspects of IT use/ERM
- ERM systems' implementation problems are mostly behavioural
- Recordkeeping is given a low priority by staff
- One reason for records management processes being poor or lacking is operator error/demotivation
- People cause information security 'scares'

Management of records/information
- People place high personal value on the information they have researched and created and will seek ways to personally retain this information irrespective of corporate policy
- Staff's personal investment in information leads to a reluctance to delete information
- Inconvenient access and poor usability causes staff to retain copies of information/records for their own convenience
- Reluctance to share information by some staff
- Data Protection is used as a scapegoat
- Data Protection causes a lack of certainty in staff about information release
- Data Protection causes staff to be cautious about online storage
- ERM has created a generational divide
- The younger generation is both more likely to use, and to expect to use, Web 2.0 and social technologies

Experts' behaviour
- Lack of engagement of records managers with major vendors

Managing behaviour
- Behavioural aspects require management
- Recordkeeping benefits of developing staff in good practice and habits
- Organisations need to understand benefits to the end user of cloud technologies and where possible provide similar capability in order that users have less attraction to operate outside the organisations IT infrastructure

Meta theme: Non-IT processes
Scope note: Non-IT processes required to conduct business in the electronic environment. The individual non-IT processes (themes) given here fall into the complex domain. *[Contrast with those under this meta-theme in the simple domain]*

- Informal information-sharing
- Awareness of other people's activities

Meta theme: Resistance to change
Scope note: Resistance to the change brought about by/required for ERM

- Resistance to organizational and cultural changes caused by ERM
- BPR problems because of staff resistance to the change
- Records management processes are poor or lacking because of resistance to change
- Staff cynicism about who is pushing the change and why, and about the need for change

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- Poor experiences of previous change leads to staff viewing change with antipathy or distrust
- Users resistance to re-engineering where there is a lack of prior process analysis
- Change causes alienation where there is a lack of staff involvement
- Lack of visible problems results in staff having no desire to change

Meta theme: User buy-in
Scope note: Users' acceptance of ERM

- Change requires buy-in from staff
- User acceptance of electronic records/ERM
- New RM methods requires buy in by users
- Information/data privacy/security requirements need buy in by staff
- Driver for BPR is greater IT acceptance

Meta theme: RM / ERM / ERMS implementation – critical success factors
Scope note: To achieve good RM/ERM, or to implement an ERMS, respondents identified certain actions or activities as required or necessary or critical success factors. Conversely some issues were identified as barriers to this process: barriers and CSFs are the different sides of the same coin. The individual CSFs/actions (themes) covered here fall into the complex domain. *[Contrast with those under this meta-theme in the simple domain]*

CSFs
Requirement for change management:
- ERM systems implementation requires change management
- BPR requires business change and change management
- Change management needs to be included in the business case
- ERM systems implementation requires realistic expectations about corporate commitment to change
- ERM systems implementation requires realistic expectations about the extent of change

Commitment and leadership:
- Organisational commitment
- Leadership
- Commitment and support of CEOs
- Commitment from managers
- Drive and determination of one individual or team

Partnership working and collaboration:
- Bring records managers, archivists and information officers together'
- Cooperation/closer working between RM/IM/IS/IT professionals
- Partnership working/collaboration by RIM professionals with: IT professionals; information security staff; business analysts; legal staff; auditors and compliance; cloud computing service providers
- Openness to ideas and prior mutual understanding by professional partners
- Good partnership working with IT professionals obviates the need for records professionals to have advanced IT knowledge/skills
- New partnerships with education programmes and research
- Cross-disciplinary partnerships in ERM research
- Collaboration in ERM research

Involvement with end users:
- Consultation of staff
- Relationship building between records professionals and end-users
- Sharing of expertise
- Communication
- Cooperative working

Barriers
- Change management is difficult

- Relationships between record managers and other stakeholders may prevent partnership working

BORDER BETWEEN THE COMPLEX AND CHAOS DOMAINS

Number of individual themes (before accounting for duplication) = 3 out f 446 (1%)

Meta theme: The different characteristics of the types of information, processes and technology
Scope note: ERM in organizations is needed for both structured and unstructured information/processes, and controlled and uncontrolled technologies.

- Challenges of allowing RM by records creators through structured and unstructured business processes
- For well-defined business processes non-records professionals usually manage the important records well, often using line of business applications. Supporting/peripheral records (often created in other types of applications) are managed less well, resulting in either neglect, or over-management/over-retention
- The difference between consumer systems and corporate systems is quite marked in cloud computing. This could result in 2 silos of operation: (i) fast, nimble, 'lighter touch' systems'; (ii) more secure and less responsive using the more 'traditional system approach'. Users will need clear guidance about how to operate in this world

CHAOS DOMAIN

Number of individual themes (before accounting for duplication) = 11 out of 446 (2%)

Meta theme: The breakdown of records management / recordkeeping
Scope note: The impact of technologies on work processes and work behaviours which has just 'happened' rather than been managed/controlled

- Technologies that facilitate productivity have outpaced those that facilitate information management
- Computers have brought individualisation to the conducting of business processes
- Access to e-records has increased control by users and given them greater freedom
- Devolution of recordkeeping responsibilities to staff and lack of recognition by staff of its importance
- Lack of responsibilities for recordkeeping processes by specific staff
- Behaviour less regimented
- Culture of casual creation of records and lack of discipline. Therefore respect for record integrity and care in records creation now mainly reserved for business records which are outputs of traditional processes, e.g. bank statements, policy documents, payslips
- Non-records professionals don't know that data can be a liability as well as an asset. Therefore the default is a 'keep everything' mentality.
- Peoples' lack of comfort with information management results in inappropriate, 'keep everything' retention
- Most people prefer unmanaged information in 'giant data buckets' accessed by search tools
- Individual record keeping creates confusion amongst different team members

BORDER BETWEEN THE COMPLEX AND SIMPLE DOMAINS

No issues identified

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DISORDER DOMAIN

Number of individual themes (before accounting for duplication) = 1 out of 446 (0.2%)

Scope note: Items are located here when it is unclear which of the other domains are appropriate. Multiple perspectives are predominant, and for a given context discussion and consensus building would be needed to relocate items from disorder into one of the other domains

- Vendors sell 'silver bullets'

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Categorised List of Solutions

Contents of This Section	

SOLUTION CATEGORY: ORGANISATIONAL STRUCTURES

Solution Sub-Category	Specific Solutions to Try/Avoid
Location of RM corporate function	Individual strategic position for RM
	Unified information management (IM) function, comprising e.g. IM, RM, IT, Legal
	Central information risk business unit, comprising information security, RM, IT risk, business continuity, physical security
	Align RM with IT
	Avoid locating RM within the IT function
	Locate RM within the legal function
	Locate RM within the risk management function
	RM to collaborate/integrate with the quality management function
	Integrate RM, quality management and IT security functions
	Avoid locating RM within the facilities management function
Relationship of RM with other corporate functions	RM to communicate with other corporate functions
	RM to co-operate with other corporate functions
RM aligned with 'the business'	Align IM/RM principles and practices with corporate information policies
	Align IM/RM principles and practices with staff business needs
	Integrate IM with business processes
	Integrate RM with quality processes
	RM to be part of information governance
	Integrate RM with service culture

SOLUTION CATEGORY: ROLES AND RESPONSIBILITIES

Solution Sub-Category	Specific Solutions to Try/Avoid
RM roles and responsibilities	Define in project charter, signed by all stakeholders
	Define specific RM responsibilities of Chief Executive Officer (CEO), e.g.

	• Compliance with legislation
	Allocate IM/RM responsibility to Chief Information Officer (CIO)
	Clarify RM roles of key stakeholders
	Avoid giving record keeping responsibilities to managers if they are not already undertaking these
	Avoid delegating RM responsibilities to secretaries
	RM role of legal function includes e.g. • Assisting RM to develop policies • E-discovery
	RM role of IT function includes e.g. • Providing desktop tools and line of business applications that ensure creation, capture and deletion of recorded information
	RM role of HR function, e.g. • Providing employee induction and leaver processes that ensure records responsibilities are addressed during the lifecycle of the employee
	RM role of compliance function, includes e.g. • Monitoring RM compliance
	RM role of managers, includes e.g. • Leading by example • Ensuring that records policies are adopted
	Define the interface between records professionals and other professionals
	Redeploy records professionals in new roles, e.g. • Consultancy
Managers' performance contract/review	Include RM as a performance area within the performance contract
	Link ERM to the survival and success of the corporation
	Make review applicable to the manager's level of RM responsibilities
	Certification of compliance with RM policies
	Amend public service regulations for senior managers to include RM performance contract
	Avoid performance review as a window dressing activity
	Reward achievement of objectives and carrying out of responsibilities
Staff performance agreements	Include RM as a performance area within the performance agreement
	Make review applicable to the staff's level of RM responsibilities
	Include RM within regular career review, but as a reminder not a threat
Performance measurement	Include measurable provisions within RM policies
	Include auditable provisions within RM policies
	Include reporting methods within RM policies
	Include RM risk categories within the risk reporting framework
Integration of the RM standard (ISO 15489) with the quality management systems standards (ISO 9000 series)	By a certification programme
	By mapping between the two standards
	Use ISO TC 46/SC 11 to convert ISO 15489 into a management system standard (Note: this has been

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	superseded as there are now a series of standards for management systems for records, ISO 30300, 30301, 30302)

SOLUTION CATEGORY: MARKETING RM / ERM

Solution Sub-Category	Specific Solutions to Try/Avoid
RM and business objectives/strategic value	Link RM to solutions to problems
	Provide evidence that RM is linked to survival/success of the organisation
	Emphasise that RM is an essential element of business activities
The financial aspects of RM	Show that poor quality RM costs time and money
	Show that poor recordkeeping causes loss of accounts and loss of competitiveness
	Demonstrate cost savings of good RM
	Show that ERM systems save money in terms of time and efficiency
	Present the financial business case for RM to the CEO
Managers and the benefits of RM	Make a credible, well informed case to senior managers
	Present to senior managers a strategic view of the value of RM
	Demonstrate the business benefits of recordkeeping integrated with staff responsibilities
	Show the CEO the RM requirements associated with business processes
	Show measurable benefits of ERM, e.g. - Compressed management approval chains - Reduced staff complements - Reduction of information silos - More participation by knowledge workers in corporate decision-making
	Avoid marketing to the CEO the generic benefits of recordkeeping
The benefits of RM for competitive advantage	Demonstrate/give examples of business improvement benefits, e.g. - Improved business continuity - Investment into and deployment of stable secure systems - Cost savings - Reducing other paper based administrative overheads for potential reinvestment - Efficiency savings - Improved compliance - Regulatory compliance - Staff time for knowledge sharing - Ability to share and disseminate relevant information quickly and in a controlled fashion - Respond in a timely fashion to information requests
Disadvantages of poor RM	Highlight the disadvantages of poor RM, e.g. Loss of records

	• Lack of security • Lack of efficiency
	Give the wider context, outside RM, of the effects of poor RM
	Demonstrate the risks of poor RM, e.g. • Loss of records • Regulatory non-compliance and reputational damage • Corporate collapse • Financial costs
	Measure the risk of poor RM, e.g. • Use risk assessment in appraisal
Personal benefits of RM to senior managers	Identify the personal benefits to the CEO of RM, e.g. • Access to information any time
	Present the individual benefits of RM/ERMS to senior managers
	Don't delegate RM requirements to the CEO's secretary
	Get the CEO's secretary to demonstrate the benefits of the new ERMS to the CEO
Staff and the benefits of RM	Demonstrate to staff that good RM has benefits
	Demonstrate to staff that RM has personal benefits for them
	Identify the value of IM/RM to individuals
	Choose a member of staff randomly to present value of RM in departmental meetings
	Avoid promoting the intrinsic value of RM
	Disable systems for one week, e.g. • Lock away records
Methods of marketing RM	Records managers to make marketing RM to executives their personal mission
	Recruit passionate records managers
	Avoid not marketing RM
	Run awareness campaigns
	Run targeted campaigns

	Tailor messages, e.g.
	• By RM priorities for the public sector, e.g.
	    o litigation
	    o duty of care
	    o accountability
	    o financial return on investment
	    o knowledge management
	    o intellectual property
	• To heads of departments/board members worried by e.g.
	    o compliance
	    o loss of confidential data

	Communicate simply
	Make presentations to managers, e.g. with • Credible presentation • Compelling summary • Key message • Clear ideas • Clear goals • Implementation plan • Assessment criteria

	• Regular meetings
	Give case examples, e.g.
	• Targeted
	• Concrete
	• Relevant
	• Real scenarios
	• Industry-based
	• Based on subject expertise
	• Business makeover stories
	• Publicity in the press of risks of poor RM
	• Published case studies of risk of poor RM
	• Research examples
	• War stories
	Use RM champions
	Avoid a focus on compliance
	Avoid a lack of focus on needs
	Avoid scare stories
	Avoid creating misleading expectations of systems
	Avoid suggesting 'yet another system' to executives
	Avoid poor communication techniques, e.g.
	• Wordy reports
	• Overload
	• Poorly thought through ideas
	• Inappropriate terminology
	Avoid marketing RM as an arcane function
	Avoid persuading staff that IM/RM is exciting
	Avoid persuading staff that IM/RM is likable

SOLUTION CATEGORY: SKILLS AND TRAINING

Solution Sub-Category	Specific Solutions to Try/Avoid
Skills required for ERM	People management skills
	Influencing skills
	Negotiation skills
	Change management skills
	Technology skills
	RM skills
	Project management skills
	Business process analysis skills
	Capturing user requirements skills
	Appropriate mix of skills
	Essential skills not required by one individual
Ranking of skills required for ERM	Rank first
	• Influencing skills
	• Negotiation skills
	• Change management skills
	• Technology skills
	• RM skills
	• Project management skills
	• Business process analysis skills
	Rank second
	• Change management skills
	• RM
	Rank third

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	• Project management skills
	• Business process analysis skills
	Rank fourth
	• Change management skills
	• Technology skills
	• RM skills
	Rank fifth
	• Technology skills
	• RM skills
Skills required by records managers	Facilitation skills
	Change management skills
	New media skills
	General business skills
	Risk management skills
	Subject expertise
	Analysis skills, e.g.
	• General analysis skills
	• Business process analysis skills
	• Root cause analysis skills
	Marketing knowledge/skills
	Paper record skills not sufficient for e-records
Recruitment criteria for records professionals	Establish extent of the individual's skills
	Require professionally recognised qualifications
	Require tertiary professional qualifications
	Avoid recruiting individuals with professional qualifications only
	Avoid recruiting individuals with a lack of relationship management skills
Methods for training records managers	Run RM training days
	Set up an RM knowledge base/reservoir
	Set up collaborative training involving RM professionals and other professionals
	Avoid excessive project management training
	Avoid lack of training
Skills required by managers	Lack of requirement for detailed RM knowledge
	RM skills required by CIO
Methods for training managers	Use subtlety
	Provide training over the long term
	Provide training by records managers
	Set up a virtual network/team of key influencers and key specialists
Skills required by staff	RM skills
Aim/content of training for staff	Information assets/value
	Information costs
	Information risks
	Records as a subset of information
	RM policies
	RM roles and responsibilities
	Information appraisal
	Information sharing/storage in RM system

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	System accessibility/usability
	Research skills
	Internet use
	Avoid assuming records professionals' knowledge/understanding is the same as other professionals
	Avoid restricted focus
	Avoid requiring a complete understanding of an ERMS implementation
	Avoid training only about how to use the technology
Methods for training staff	Set up RM training programmes
	Provide training by records managers
	Provide training at induction
	Provide ongoing training
	Provide training from beginning of ERMS design
	Provide training at deployment of ERMS
	Provide training appropriate to staff roles
	Conduct ongoing monitoring of staff understanding
	Avoid lack of recognition of lack of staff understanding
	Use live meetings
	Use active communication
	Avoid passive communication
	Tailor training
	Link training to personal experience
	Use real examples
	Use narratives
	Use pictures
	Avoid neglect of training
	Avoid training by edict
	Avoid formal instruction
	Avoid poor, dull PowerPoint presentations

SOLUTION CATEGORY: RM APPROACH

Solution Sub-Category	Specific Solutions to Try/Avoid
RM principles and theory	Aspects not applicable in the e-environment, e.g. • Lifecycle model • Original order • Manual signatures • Breaking down file collections/series into volumes
	Aspects needing adaptations in the e-environment, e.g. • Appraisal prior to creation
	Aspects applicable in the e-environment, e.g. • Continuum model • Authentication • Requirements audit
	Approaches to amend RM principles and theory, e.g. • Test value of principles in practice • Use flexible methods
RM culture	Include RM in workplace culture
	Aspects of organisational culture for effective RM, e.g. • Respect for rule of law

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	• Good information governance
	Achieve an RM culture, e.g. by • Openness • Legislation • Resourcing • Active change management programme • Involving key stakeholders as RM champions • Rewarding/providing positive feedback for good RM behaviour
RM policies	Base on standards
	Base on high-level principles
	Avoid excessively low-level, procedural policies
	Avoid policies that don't facilitate the work of staff
RM approaches	Reserve RM for important records only
	Outsource, e.g. • Storage of paper records
	Avoid associating RM with management fads
RM support for users	Communicate
	Provide information
	Customise support
	Tailor timing of support
Support for records professionals	Provide RM advice
	Provide RM support
	Provide toolkits
	Provide EDRMS evaluations
Records professionals' approach	Have an holistic approach
	Have a proactive approach, e.g. • Get Involved in business systems analysis • Get involved in business projects • Advocate information life-cycle management within systems • Conduct research • Discuss with other implementers • Have concrete ideas • Plan • Communicate with all staff, e.g. via meetings, focus groups • Co-operate with other sections e.g. IT • Be determined • Address resistance
	Avoid narrow RM approach
	Avoid purist RM focus
	Recognise the degree of applicability of existing RM theory
	Avoid introspection
	Avoid victim mentality
	Use new media, e.g. • Be encouraged to use new media • Increase understanding of new media • Experiment with new media

SOLUTION CATEGORY: SYSTEMS DESIGN AND SELECTION APPROACHES

Solution Sub-Category	Specific Solutions to Try/Avoid
Systems/system approaches	Avoid centralisation
	Avoid central prescription
	Avoid whole organisation solutions
	Avoid all embracing system
	Avoid 'promise everything' systems
	Avoid 'shiny', superficially attractive solutions
	Avoid large systems
	Avoid single-source solutions
	Avoid expensive systems
	Avoid major systems providers
	Avoid quick-fix solutions
	Avoid generic systems
	Avoid technology driven solutions
	Avoid introducing a system that requires significant change to day-to day operations
	Use simple solutions
	Have close links between IT corporate function and RM corporate function
Systems requirements	Meet business objectives
	Provide business value
	Include RM seamlessly within business processes
	Use business analysis
	Avoid overemphasis on business process management (BPM)
	Provide required functionality
	Avoid lack of functionality
	Capture all requirements
	Avoid neglect of risk of poor RM
User involvement in system design/selection	Focus on user involvement
	Use participatory design techniques
	Identify appropriate staff to involve
	Communicate actively with staff
	Consult with staff
	Use methods to involve staff that match organisational culture
	Obtain manager's agreement to staff time investment
Identifying staff needs	Undertake a skills analysis
	Undertake a gap analysis
	Provide on-going consultation
	Talk with staff, by e.g. Interviews
	Observe staff, by e.g. Shadowing
	Research staff, by e.g. Critical inquiry
RM system approaches	Avoid RM solutions that lack executive sponsorship
	Avoid isolation of RM function

	Avoid an RM-silo
	Have separate RM system
	Reserve RM for certain records, e.g. • For those previously in paper form

	Integrate with standards, e.g.
	    • ISO 15489 – records management
	    • ISO 9000 – quality management systems

Interoperability of ERM systems	Avoid lack of interoperability
Integration of ERM systems	Integrate ERM systems with other systems
	Build RM functionality into other systems
	Integrate RM risk categories into the risk reporting framework

	Build openness, e.g.
	    • Into IM policy
	    • Into IM practice

	Avoid lack of integration
	Avoid overemphasis on integration
	Avoid market-driven specification of integration
	Avoid specification of integration by records managers

Automation of ERM	Automate recordkeeping tasks, e.g.
	    • In desktop tools
	    • In line of business systems
	    • By system prompts
	    • Of data capture
	    • By auto-deletion

RM burden on staff	Create minimal RM burden on staff, e.g. by
	    • Intuitive file-plans
	    • Unobtrusive support

	Avoid RM burden
	Avoid RM as a visible overhead
	Avoid expecting staff to understand/use records schedules
	Avoid not making work processes easier
	Avoid excessive granularity

Ease of use	Design easy to use systems, e.g. by
	    • Familiar user interface
	    • Intuitive tools
	    • Systems/technology transparency
	    • RM in the background, and pervasive
	    • Achieving a balance between too prominent or too remote RM

Specific functionalities of ERM systems	Avoid lack of functionality
	Combine standard features with specific requirements
	Integrate compliance
	Avoid controlling information availability
	Avoid procedure-based methods
	Maintain chronological order of components
	Avoid lack of recognition of new communication types
	Use a single storage repository
	Avoid storage of original documents in one box in one location
	Have a notification system of staff involvement in projects

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SOLUTION CATEGORY: SYSTEMS IMPLEMENTATION APPROACHES

Solution Sub-Category	Specific Solutions to Try/Avoid
Implementation approaches	Avoid small scale systems
	Avoid senior manager's personal project
	Avoid records-driven projects
	Avoid IT-driven projects
	Avoid a big stick approach
	Avoid blame culture
	Have a prior supportive culture, e.g. • RIM staff with strong IT culture • RIM staff with strong business analysis culture • IT staff with strong RM/IM culture
	Plan, e.g. • Collect baseline measurements of precursor system • Have a tight focus • Use a natural logic of process migration
	Identify the level of implementation, e.g. • Avoid bottom up approach • Use both top down and bottom up • Context specific
	Phase the implementation, e.g. • One unit at a time • Start with unit positive about the change • Context specific
	Involve managers, e.g. • Involve from outset • Avoid starting with senior managers • Early adoption by senior managers not required • Avoid late adoption by managers • Context specific
	Project manage the implementation, e.g. • Ensure continuity of leadership
	Conduct pilots, e.g. • Interoperability pilot • Demonstrate functioning pilot to managers • Avoid procurement before pilot project
	Communicate continuously about the implementation, e.g. • With senior managers • With department heads
	Demonstrate system, e.g. • Demonstrate usability of system to users • Avoid demonstrating full functionality to users
	Conduct compliance audits
	Performance review, e.g. • Conduct regular programme reviews • Avoid lack of adequate performance review
	Encourage communication to prevent dehumanisation by IT systems, e.g. by • Regular meetings of user groups • Regular meetings of business units

SOLUTION CATEGORY: PARTNERSHIPS

Solution Sub-Category	Specific Solutions to Try/Avoid
Partnership working	Records managers to build partnerships with other professionals, for e.g. • To raise awareness of RM • To develop understanding of RM • To develop RM skills and knowledge • To improve information security • To improve electronic storage
	Avoid lack of partnership working
Partners	Set up a multi disciplinary RM team, including e.g. • Records managers • Entrepreneur • Relationship manager • IT staff • Legal staff • Operations staff • Secretaries
	Records managers to set up partnerships with other records managers/ professionals
Methods	Build virtual network
	Present RM case to senior managers
	Negotiate appropriate facilities for development of knowledge and skills
	Manage relationships
	Professionally network, e.g. by • Attending professional conferences • Joining professional organisations • Talking with experienced records professionals

SOLUTION CATEGORY: CHANGE AND CHANGE MANAGEMENT

Solution Sub-Category	Specific Solutions to Try/Avoid
Requirement for change	Avoid lack of cultural change
Change management methods	Obtain senior managers mandate for change
	Focus, e.g. • On cultural change • On key stakeholders • Narrow focus • Avoid focus on ERM system
	Avoid using an ERMS as tool for wider cultural change
	Collaborate between central information risk business unit and HR corporate function
	Empower staff to conduct the change process, e.g. • Empowerment of records professionals • Empowerment of quality management professionals
	Avoid lack of recognition of skills needed to affect behavioural change

	Avoid lack of recognition of effort needed to affect behavioural change
	Conduct a sustained, sufficient change management programme
	Apply change management techniques
	Avoid sociological models of behavioural change
	Use psychological models of behavioural change
	Avoid academic models
	Avoid procedure-based methods
	Include a quality process component
	Implement change both top down and bottom up
	Obtain knowledge of RM mistakes first hand from the victims
	Avoid too much focus on RM champions
	Engage early with staff
	Avoid believing staff will understand RM without communication
	Present the positive aspects of the change
	Emphasise RM methods and processes
	Encourage staff to adopt the required behaviours, e.g. • By rewards
	Avoid creating expectations that cannot be met
	Avoid using personal change by managers as a success criteria
Methods for managers' personal change	Commitment
	Time
	Space
	Resourcing
	Appropriate recognition in performance review
	Avoid requiring excessive investment of time by managers