

# Recordkeeping Informatics: Building the Discipline Base

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## ABSTRACT

In this paper we build on work we have been doing on recordkeeping informatics (RKI) which is our term for an approach to records management that focuses on the processes that produce records rather than the management of them as end products. For an account of RKI see our article Upward, F., Reed, B., Oliver, G., & Evans, J. 2013. Recordkeeping informatics: re-figuring a discipline in crisis with a single minded approach. *Records Management Journal*. 23(1), 37-50.

In that article we identified the need for a new more disciplined base to records management and in this paper we will discuss five critical components for this base. Those components involve

- developing new professional groupings and new occupations,
- teaching and training in new forms of skill and knowledge,
- finding ways of focusing attention on the ethics of corporate governance,
- outlining new recordkeeping competencies and functions
- and showing how these components can be clarified and used within the work of project teams prototyping modularized business applications.

## Keywords

Agile computing

Corporate Governance

Recordkeeping Informatics

## 1. INTRODUCTION

Previously, we have introduced the concept of recordkeeping informatics as a new disciplinary base for records management [10]. We argued that more efficient, effective reliable and sustainable record management comes from understanding and appreciating the informatics of recording methods. In other words, knowing not just about managing records, but also about managing the recordkeeping systems and processes in which they are created, captured, managed and consumed. We built our argument for recordkeeping informatics around two building blocks (continuum thinking and metadata) and three facets of process analysis (business processes, organisational culture and access), urging those responsible for the management of current records to accept the challenges of the digital environment and in so doing to actively engage in re-shaping and broadening their philosophy and approach.

We tied the nature of the challenge in to Anthony Giddens's sociological explanation of allocative and authoritative resource management applying it to information resource management. We were not concerned with the allocative aspects, the productive power and vitality of our emerging communication and information technologies. Producing more and more recorded information, moving it around quickly and globally and using powerful search engines is part of many daily lives already. We wanted to open up discussions about how to re-introduce protocols into that emergence giving more order across what is often seen to be a wild frontier. That ordering, within Giddens' interpretation of authoritative resource management, will need to be directed at our life chances, the way we associate with each other, and how well we manage things over spacetime. In all three areas there are many challenges within the application of technologies in modern societies.

In order to progress these ideas, to move beyond traditional records management practices which are failing to achieve recordkeeping objectives in today's networked society, it is necessary to build a new disciplinary base. Without this radical overhaul we will simply continue to make cosmetic and ultimately ineffective adjustments to our traditional ways of doing things.

In this paper we identify five critical components essential for this new base. Each of these components will be discussed in turn. The components are:

- New professional groupings and new occupations
- People with a new range of skills and knowledge
- Ethical organisations
- Re-invention of recordkeeping competencies and functions
- Roles within project teams

## 2. NEW PROFESSIONAL GROUPINGS & OCCUPATIONS

Recordkeeping informatics is concerned with managing information objects in cyberspace. The occupation of records management emerged in the mid twentieth century as a result of the need to manage increasing quantities of paper records [4]. We question whether existing professional infrastructures are up to the task of re-positioning and upskilling to the extent required given the fundamentally different environment we are now operating in.

The existence of particular occupations reflects societal values and needs. Cigar makers and furriers would have been regarded as necessary and respected members of society in the nineteenth and first part of the twentieth centuries, yet now the most benign view would probably be that these occupations are little more than anachronistic novelties. Similarly, a shortage of blacksmiths and saddlers would have posed a huge risk to people's ability to trade and to make a living, these two occupations were once essential for the smooth functioning of society. Andrew Abbott, in his theory of professions, argues that professions (or occupations) arise as a result of system disturbance and the ones that prevail are the ones that are successful in claiming the territory, establishing ownership of a particular set of problems [1]. Several decades ago it was noted that library and information science was engaged in competition for jurisdiction with other information professions due to ICT developments as well as the increasing strategic importance of information [11]. Since that time, the complexity and the scale of the ICT environment has increased exponentially, and the power of information exceeds anything that could have been imagined previously. Reflecting on reactions to WikiLeaks and the NSA disclosures by Edward Snowden is enough to demonstrate that here is territory where ownership and control is perceived as being crucial to the well-being of nation-states. But are records managers engaged in this competition for jurisdiction, are they even part of the debate?

A cursory review of the publications for records practitioners produced by their professional associations suggests that rebranding is attempting to minimize the significance of records, and a claim is being made to information management instead. For instance, in the United States, ARMA International publishes the Information Management Journal, and surprisingly claims that this publication is "the only professional journal specifically for professionals who manage information as part of their job description" [2]. The Information and Records Society of Great Britain publishes the IRMS Bulletin. The Records and Information Professionals Association of Australasia publishes the cryptically named IQ Magazine, previously known as Informaa Quarterly. This terminology usage seems to claim jurisdiction over a very broad information management domain, and suggests that in the English speaking world our professional associations are losing sight of what should be our core concern: the management of information as an authoritative resource.

Claiming jurisdiction over the broad (and extremely contested) domain of information without a strong recordkeeping element

implies that we have little to contribute. If our professional associations are highlighting this path as the way to go it suggests that we need new professional leadership, and recordkeeping informatics can make a targeted claim for jurisdiction in a vital area where genuine competition is slight. Recordkeeping used to be characterized by a single mind, but we divided the role into records management and archival administration and now have to grapple with multiple personalities beyond those two groups.

Recordkeeping has now become hidden within other professional activities. All professions have the challenge of regaining control of our expanding ICT capabilities but without the innate understandings of evidence that they used to have in the paper world. We have gone from a situation where recordkeeping was performed adequately in many areas to one where if it is being carried out, it is likely to be done badly.

The new occupations that are needed are based on those of the past, but have often in the developed English-speaking world been a casualty of the dismantling of bureaucracies. Registrars for instance were the key figures that managed the reception, handling and dispatch of in-coming and out-going business. These days we need recordkeeping metadata registrars, experts in metadata schema, who can identify and implement elements in those schemas to turn information into evidence.

Records analysts also need to be re-invented, to identify when and where records should drop out as end products of our processes, but at the same time making records and evidence part of the effectiveness of all operational activities when required.

The numbers of roles required to look after records and archives as analogue or digital products (things to be shelved, or imaged) will decrease. The numbers of roles required to manage evidence in cyberspace though will increase. One way of thinking about these positions collectively is as stewardship roles for authoritative resource management.

Furthermore, we have to broaden our thinking, to help move us past a narrow competition for jurisdiction with cognate professions, which ultimately diverts our energy and capacity to innovate. Just as the much older profession of medicine has developed different roles to provide generalist and specialist perspectives, so must we. Thus we should be seeking to position recordkeeping in conjunction with those other cognate professions, focusing on and being confident in the particular contribution we can bring.

## 3. PEOPLE WITH A NEW RANGE OF SKILLS AND KNOWLEDGE

These stewards for authoritative information resource management will still need to work to logical models and their conceptual underpinnings. This knowledge enables the identification of patterns for the development, selection and management of recordkeeping applications – the high level, master plan. Within this understanding, there is a need for new analytical skills relating to organisational cultures, business process analysis and archival access. These analytical skills will enable us to develop the detailed floor plans necessary for implementation – the topography of recordkeeping.

It is not enough to simply have mastery of a specialized skillset. Those specialized skills need to be combined with a wide range of additional, reflexive skills. Reflexivity requires people who are:

- Capable of analyzing shifting legislative mandates

- ICT literate, maintaining an awareness of emerging trends and their consequences
- Equipped with diagnostic skills
- Able to engage with people
- Capable of succinct and meaningful explanations of recordkeeping, the ‘elevator pitch’ tailored to whoever is in that elevator
- Awareness of who holds the power in their workplace and its strategic direction, with understanding of financial models and resource allocation
- Effective in their networking with others who play key roles (whether they are aware of it or not) in authoritative resource management
- Enthusiastic but purposeful participants with digital technologies and social media
- Able to apply graphic and other technical skills in communication
- Active listeners

These are important skills that have to be taken into account when developing educational programmes, in conjunction with professional skills and knowledge.

#### 4. ETHICAL ORGANISATIONS

The world we live in is characterized by the spectres of climate change, the spread of terror, corruption, declining confidence in our governments, poverty and inequalities in wealth distribution, famine and economic collapse at a time when a growth in general wealth, humane food production and improved economic stability should be within our means. However, attempts to address these societal problems are hampered by those with vested interests in maintaining the status quo, and an absence of evidence bases to support or refute arguments.

These societal grand challenges may seem remote from day to day records management. On the contrary, they provide the standpoint to consider the crucial need of operating within ethical organisations that possess the rare understanding that the imperative in today’s world is to seek out win/win outcomes.

We are certain that the examples of poor administration that we regularly come across in Australia and New Zealand are likely to be systemic, but can seldom be attributed to human error alone. The cause is likely to be an absence of recordkeeping knowledge and skills. In New Zealand, for instance, the inability of the Earthquake Commission (EQC) to provide citizens with critical information relating to their property and assets subsequent to the 2010-2011 Canterbury earthquakes resulted in an extensive investigation by the country’s Chief Ombudsman and Privacy Commissioner. The report of this investigation places strong emphasis on the vital need for timely, accurate and comprehensive information in the context of disaster recovery, and is very critical of EQC’s failures in this regard. Failure to respond appropriately in accordance with legislative requirements is attributed to being reactive rather than proactive and a seemingly complete absence of understanding of people’s needs for information [7]. It seems that the EQC simply did not have the infrastructure or the foresight required to fulfill its records-related obligations.

The old bureaucratic models promoted strong relationships between recordkeeping and administration, but the rise of new public management caused the recordkeeping baby to be thrown out with the bathwater of excessive regulation.

The connection between effective recordkeeping infrastructures and administrative efficiency may seem obvious to us, but without practitioners who can actually deliver more adequate recordkeeping our voices will not be listened to. Our attempts at intervention are likely to be seen as needlessly putting red tape in the way of action, impediments to achieving workplace goals

As a recent report from an Australian Royal Commission into a major administrative debacle noted [6] it is often considered that maintaining records is too burdensome but it is precisely agencies that think this way that are most likely to lack a sound corporate governance framework. In one way we are more sympathetic to the fear that recordkeeping is burdensome than the Royal Commissioner. In a digital recordkeeping environment the burden can indeed be great unless we find more agile approaches to computerization such as the extensive use of proto-typing methods and modular and tailorable applications that can be plugged into and unplugged within our information infrastructures without losing contact with the records created when they were active. Agile computing approaches are in their design infancy in our organisations except for hospital records but are one of the main paths we envisage recordkeeping informatics taking.

Recordkeeping used to be a gold standard for any form of governance and administration but on its own it is morally indifferent. It can serve any form of government and is particularly effective in supporting terror based or totalitarian regimes (see, for instance [3], [12]). Therefore it is essential to cultivate awareness of the ethical dimension of being a professional recordkeeper; we need to work out many different ways of legitimating access to information directly, through judicial processes, whistle blowing within ethical parameters or through trusted third parties such as ombudsmen or archivists. We have already referred to the need for ethical organisations to work towards win/win solutions. No organisation is an island – all organisational entities are part of complex networks which means complex interdependencies. Prosperous survival means that all nodes in the network do well – thus all involved benefit.

#### 5. RE-INVENTION OF RECORDKEEPING COMPETENCIES AND FUNCTIONS

The challenges of digital recordkeeping call for a re-think of what it means to be a records manager. Former service models that focused on managing the thing, rather than the process, have collapsed. The expanding complexities of ICTs have quite simply passed us by – the traditional emphasis on authoritative resource management which was relatively easy to understand in paper based ecologies has slipped away.

We need new standards for professional recordkeeping competencies and new ways of expressing recordkeeping functions. Those functions and competencies in digital recordkeeping ecologies will include:

- Understanding the storage of information objects, taking into account fixity in time and place and also fluidity as they alter during re-use.
- Understanding storage as a strategic issue, outsourcing service models change the cost dimensions to ongoing operational charges which have to be proactively justified rather than hidden in seemingly one-off capital expenditures
- Pluralised access will need to be as automatically controlled by recordkeeping metadata as much as

possible. The metadata will have to be applied during the formation of self-authenticating records during business processes and those records need, just as automatically, to take their place within corporate stores (archives).

Taken together, our three facets of analysis and two building blocks form a kind of kaleidoscope, layering and interweaving professional competencies and functionality to produce a coherent whole. Those competencies and the functionality underpinning recordkeeping informatics are not fixed and immutable and need re-statement in our new digital world.

We suggest a starting point for identification of the new competencies to the level of granularity required will be to re-examine the many existing explorations of archives and records management competencies in different jurisdictions that have been defined over the last few decades, and to map those against the recordkeeping informatics facets and building blocks. This is however just one approach that can be taken to initiating meaningful review – and there is a danger inherent in restricting thinking because of over-reliance on existing work. In particular, we need to make a radical departure from a focus on objects as opposed to process. For example, a ‘traditional’ records management inventory is very different from a workflow, architecture or service oriented analysis. Compiling an inventory should now be considered as something that may need to be done in exceptional circumstances only – as a forensic rather than a clinical recordkeeping task. Clinical tasks will involve understanding and being able to analyse business processes and workflows that will provide the way to identify points where decisions are made, and therefore where records are generated and re-used. If the relationships between recordkeeping informatics and business processes are fully understood and the analysis is maintained, organisations will be diagnosing and implementing interventions, rather than conducting post mortems

## 6. ROLES WITHIN PROJECT TEAMS

One feature that will contribute to the development and diffusion of recordkeeping informatics relates to project based activities. Complexity and the related difficulties in imposing fixed rules is one reason why project team methods of working have been evolving over the last few decades (no single mind can cope). The State Records NSW for example claims that the most distinctive feature to their approach to preserving digital recordkeeping systems is its flexibility noting that “rather than delivering a tightly integrated end-to-end system with fixed rules for archiving digital objects, we’ve developed a project based methodology that we believe can be applied to the migration of any governmental digital recordkeeping system to the digital archives. To support this open approach to digital archiving, we have favoured the use of small, simple and flexible tools that we can compose together to achieve the goals of different migration projects.” [6]. We go even further than this, advocating a recordkeeping informatics role in all projects across an organization as a feasible and appropriate way of demonstrating value as well as embedding recordkeeping

Project approaches can involve large enterprise architectures or, in our preferred approach, more agile and usually web-based approaches built around applications. Which ones records managers get involved with depend on their workplaces, but web-based agility clearly has a lot more long-term relevance going for it, which is probably a good thing, as records managers have for the most part been such insignificant figures in the evolution of

large systems architectures. From a teaching and training perspective we need to develop exercises and case studies that focus on a service orientation in an agile networked environment. To better enable integration and interoperability system developers have been looking to modular or component based architectures where complex systems are assembled from well-defined and standardized components. This vision is being further extended with the idea that these functional units would ultimately be dynamically assembled to carry out business processes. A service oriented architecture is seen as having the potential to deliver major productivity and capability improvements and in so doing transform the way in which business is done and the ways in which information technology is constructed, deployed and managed [8].

The project approach should be directed at the ‘so big, so small’ problem in applying ICTs. As technologies converge the whole seems to be getting so much bigger, but in its parts the need for granular control becomes greater. Accordingly we need projects at big levels such as whole of government or organisation-wide that aim to maximise the use of agile forms of computing without losing authority in the process. We also need many small ‘wild-card’ projects addressing in more open fashion any of the myriad of business applications for which our ICTs can be used. In our efforts to bridge between the authoritative and the creative aspects of information management we need to always be looking for patterns that emerge out of our project. Elsewhere we have likened these patterns to Mandelbrot fractals [10]. The identification of such patterns enables the development of more and more modules that can be tailored within an organisation.

## 7. CONCLUSION

Building the discipline base for recordkeeping informatics is still in the very initial stages. It is a massive undertaking, requiring engagement and input from others, and cannot be considered the exclusive ground for a few people collaborating at a certain time, in a certain place. We need to critically review our existing disciplinary infrastructure and apparatus (our professional associations, our competencies, our educational materials and foci) with rigour and robustness in order to distinguish between the essential (the babies) and the no longer needed (the bathwater). Understanding the topology in relation to the topography of our professional concerns, prioritizing consideration of process rather than thing, will assist in developing new roles and occupations. Establishing the value of these roles can only be advanced when we are confident of the nature of our contribution and our capabilities, as well as secure in our understanding of our relationships with colleagues in cognate occupations.

The key to the evolution of records management lies with educators, those responsible for teaching and training the practitioners of today and tomorrow. This paper should be read as a challenge, we hope it stimulates the development of appropriate case studies and exercises that are essential for the new disciplinary base. We welcome an ongoing conversation.

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