

Challenges and Opportunities of the Digital Age

A Recordkeeping Perspective

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In today's short session I will be covering three main points:

1. Trustworthy and usable records are an essential part of everyday business and life, whether it is for carrying out day to day transactions, building a framework for accountability, or understanding past events.
2. Recordkeeping professionals—whether they are records managers or archivists—create and manage systems that support the creation and maintenance of trustworthy and usable records.
3. Contemporary society, politics and Internet culture are producing new models, tools and techniques for doing business and conducting our lives, which open up exciting possibilities for how recordkeeping systems might work, presenting present both opportunities and challenges for recordkeeping professionals.

I hope that by the end of my lecture I will have conveyed to you the need for recordkeeping professionals to retain our core skills, but also to adapt archival and recordkeeping practice to today's realities. In this way we can—and will—have an extremely powerful, unique and relevant role to play in the information age.

Trustworthy and usable records are an essential part of everyday business and life, whether it is for carrying out day to day transactions, building a framework for accountability, or understanding past events.

Recordkeeping is the engine that drives society forward. Think about how many transactions you are involved in each day, whether it is logging on to Facebook, purchasing a train ticket or paying a bill online. Every one of them relies on a record, and produces a record. And of course, recordkeeping allows us to confirm our rights, hold the powerful accountable and understand the past—roles that are traditionally performed by archival institutions.

Recordkeeping has gone through a major transition over the last two decades. Now, our work is, in most cases, about digital making and keeping of records. So naturally, what we think of as a record has changed. Rather than paper documents in files, a record today is a collection of data, at a point in time, with metadata that gives it context and ensures it can fulfil its business purpose.

I work in a global fashion company. Some of the digital records that I talk to business partners about are profiles of customers, or online transaction details, kept in huge databases. These are critical records to the success of the company, and also high risk, considering the personal information that they can contain.

These, like the paper records of the past, must be managed, made available, kept restricted, migrated and deleted. Some must be identified and protected so they can be retained as part of the company's archives. The technology has changed, but

our needs for records to be reliable and usable evidence of business have not.

Recordkeeping professionals create and manage systems that enable the creation and management of trustworthy and usable records, over time.

This might seem like a simple and obvious statement, but once we consider what is involved in this, it quickly becomes more complex.

Consider the example I just gave you; a global fashion enterprise making and keeping data about its customers, their preferences, their purchases and more. Questions that arise when considering the management of these records include:

- do we understand what data must be kept and how it should be used to ensure we reach our marketing and sales goals?
- what data can we share with third party vendors, and under what terms?
- what versions of these records could be eligible for long term retention as archives, and if so, can we manage their formats, and keep them usable and authentic while technology changes?
- what data should we delete and when?
- how can we ensure that the linkages and relationships amongst the datasets we keep remain intact so we can see the ‘whole story’ when we need to?

Addressing complex questions such as these requires a methodological approach. Fortunately, our profession has developed such an approach, one that is described in both the International Standard on *Records management* (ISO 15489:2016) and in a new ISO Technical Report, TR 21946:2018, *Appraisal for managing records*.

Some of you might have heard the term “appraisal” used in archival contexts to describe selection of so-called ‘important’ or ‘significant’ records for permanent retention. In the standards documents that I just mentioned, this technique takes on a meaning that is widely understood in Australia, but perhaps less so in other parts of the world. That is, of appraisal as a way of analyzing business, risk and requirements so you can make a wide range of decisions about recordkeeping, from decisions that records must be made, or who may access them, through to decisions about the management of records as archives.

To us, such decisions must be made strategically and proactively, especially for the digital world. Without recurrent analysis and iterative design of recordkeeping as systems and requirements change, records will either fail to meet the many requirements that we have, or will not exist at all.

This diagram (Figure 1) gives you an idea of the types of analysis that modern appraisal entails. It was developed by the International Standards committee on appraisal as part of the new Technical Report. This kind of analysis and decision making about records, the data and metadata they are made up of, access rules, retention rules and sustainability for systems is the core work of the recordkeeping professional—including the archivist, who is simply conducting the analysis with (usually) a wider scope and a longer-term view.

The ‘Information gathering and analysis’ part of appraisal work involves:

- determining the scope of the appraisal (is it narrowly scoped, for example on a single business process that is being automated? Or does it have a broad scope, as in the case of appraisal work performed across an entire government jurisdiction?)
- the identification of stakeholders and others who should be interviewed and consulted;
- the discovery of documentary sources, which might include information such as business plans, technical diagrams, past audits or media reports—depending on the scope and focus of the appraisal
- the analysis and documentation of business activities, from both a hierarchical and a sequential perspective; and
- the identification of requirements for recordkeeping—from a requirement to create a record to decisions about what should be retained long term and why—determined with consideration of risk, and in consultation with stakeholders.

‘Assessment and implementation’ is about how the agreed recordkeeping rules are to be implemented. For archivists whose main concern is the identification and protection of archival records, the methods used are likely to be tools like retention schedules and transfer rules. For business-facing record keepers, they may be building access and permissions rules or classification schemes that can be implemented in business systems.

Over time, requirements for records change. So, it is important that the systems and processes put into action are monitored to make sure they continue to meet business, legal and perhaps societal needs. As circumstances change, new appraisal work should be undertaken, and the cycle starts again.

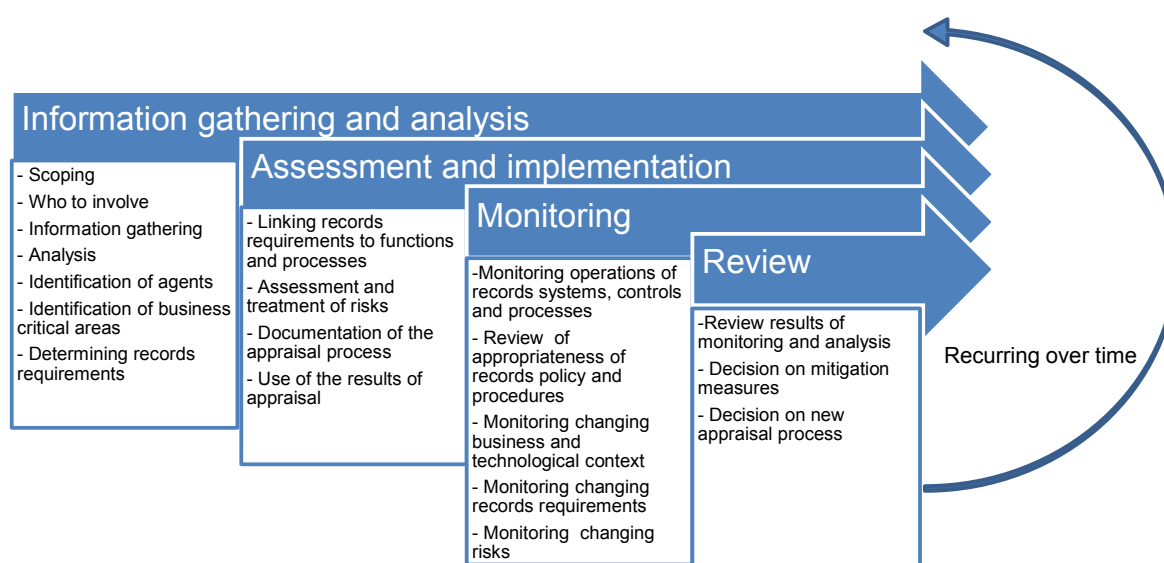


Figure 1 Recurrent appraisal for managing records: a continuous improvement cycle

And now to my third and final point.

Contemporary society, politics and Internet culture are producing new models, tools and techniques for doing business and conducting our lives which open up exciting possibilities for how recordkeeping systems might work, presenting both opportunities and challenges for recordkeeping professionals.

I live in San Francisco, where the rapid acceleration of technological innovation is visible to me every day, whether it is self-driving cars, the smart speaker in my kitchen or chatting with a bot about my insurance options.

And this unprecedented rate of change presents us with many challenges as recordkeeping professionals: as machines take over work previously done by humans, what sorts of records should be kept of the work they do, and the rules that went into their design? In an age of information abundance, how can we identify and protect the records that will serve as evidence of 2018, centuries into the future? How can our systems for keeping records withstand the pace of technological change?

Sometimes it can all seem overwhelming.

Consider, for example, the way in which artificial intelligence is being used in the United States in the criminal justice system. The ‘Compas’ sentencing algorithm, developed by a company called Northpointe, is used to set bail, determine sentences, and even contribute to determinations about guilt or innocence (Liptak, 2017). The algorithm predicts who is most likely to be recommitting a crime with a probabilistic system that’s using hundreds of variables to estimate a person’s likelihood of re-offending. In practice, in 2017, it was discovered to skew certain ways in its output, specifically, overpredicting on African American defendants being likely to recommit a crime and underpredicting on white defendants being likely to recommit a crime. Are recordkeeping professionals keeping records that show how these algorithms work? Many of these systems are built by companies with proprietary interests in keeping their code secret—where does that leave the public’s right to know, when they are used for public purposes?

However, despite such challenges, it is also a time of great opportunities:

- with the arrival of distributed ledger technologies, most obviously blockchain, we can build trust into systems in a more powerful way than ever before. With so many ways for people to deceive each other online, here is a method for forcing the creation and keeping of immutable records;
- by thinking about records as collections of data, not as “things,” we are able to imagine new ways of sharing and re-using them that were either difficult or impossible when we were dealing only with physical records;
- we can build archival controls into systems so that these records are identified and protected from creation; and
- machine learning experiments are showing promise for speeding up processes like archival access review and records discovery for court proceedings.

Conclusion

Overall, I would argue that our existing methods are definitely up to the challenge—a forward-looking strategy of recurrent appraisal work being the most obvious example—but that there are also areas in which we must adapt.

We must work at a higher level; think about business activity and its systems, stakeholders and risks—not about individual records.

We must use risk management to ensure proportionate use of our time and expertise; and

We must focus on our unique contributions:

- understanding, documenting and keeping up to date changing business, agents, systems, requirements, stakeholders
- using that knowledge to enforce and maintain meaningful, machine executable relationships between records and agents, functions and mandates—over time and through change—this is the essential context that gives records their meaning. It is not a fixed, static thing but rather an always-changing set of relationships with and around records that we must keep track of.

Here is where we bring value: as The National Archives UK’s Digital Director John Sheridan said recently, context is our ‘archival superpower’! (Sheridan, 2018)

In the age of big data, of shifting boundaries of personal privacy, of machine learning and hyper-connectivity, recordkeeping professionals can be indispensable. But we must adapt, prioritize and refocus if we want to survive and thrive in this new world. We cannot be passive recipients of records ‘after the fact’. We cannot assume that recordkeeping will produce records that meet changing needs for evidence, reliability and usability. We can be both records guardians and enablers of business, but for many of us, our mindsets have to change, from managing ‘things’ to understanding and working with business processes, systems and data, to design the records—and the archives—of the future, today.

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