2010

DEVELOPING AN INFORMATION CAPABILITY

PRACTITIONER SURVEY & FOCUS GROUP FINDINGS

August 2010
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Background and aims

Effectively managing information, as a strategic asset, is more than ever critical for organisations to maximise operational performance, exploit opportunities for collaborative innovation, and minimise exposure to competitive and reputational risk. Yet access to business-critical and quality information remains an ongoing challenge for organisations. A recent international survey of 1700 white collar workers by LexisNexis (2010) revealed that the overload of, largely irrelevant, information together with organisational systems unable to manage information well, is impacting negatively on productivity, performance and employee morale. Similarly, one in five business unit executives reported in a Gartner survey (Morello 2009, 2) that information they received from corporate systems was unreliable and locked in silos creating difficulties in accessing vital information and inhibiting growth.

Enterprise information management (EIM) is widely recognised as an integrated approach to assist in removing information silos and providing well-designed and usable information. However, effective EIM and the capability to manage information and information risks across the entire information lifecycle present considerable challenges to organisations of all kinds. Of particular concern are issues associated with the acquisition, management and retention of vital business documents. This is made all the more difficult given the vast increase in the volume and types of digital information resources being created by organisations; with the growing range of information technologies used to create, manage and maintain those information resources and in an increasingly complex legal and regulatory landscape. Further complexity arises when these systems are externally hosted (e.g. cloud computing and Software as a Service (SaaS)) and as Web 2.0 technologies permeate organisations blurring personal and organisational boundaries. Whilst the potential value of Web 2.0 technologies is increasingly being recognised, their impact and implications for enterprise information management is less well understood.

In 2010 we undertook the first of a series of surveys, focus groups and case studies to understand more clearly the issues and challenges being faced by Australian organisations when managing business information. Our aim is to gain a clearer, up-to-date picture of current practice and arrangements for enterprise information management.

The objectives of the pilot survey are to understand:

- current arrangements for information management and how they vary across organisations
- current information management issues and challenges
- the range of stakeholders involved in information management within organisations and their roles and responsibilities
- changes in the role of the information professional and the skills and knowledge required by the contemporary information manager
The design of the pilot survey instrument was partly guided by other survey instruments administered by Ashley and Williams (2009) and The Economist Intelligence Unit (2008).

The pilot survey and focus group were conducted as part of the ARK Group Documents and Records Site Visit and Workshop. Eighteen individuals completed the pilot survey and 16 individuals participated in the focus group. The survey findings will be used to refine the questions for a series of national level surveys and practitioner case studies of enterprise information management in practice.

Areas covered by the survey and focus group

The focus group and pilot survey (consisting of 36 questions) focused on specific areas of interest framed within the following five domain areas:

- Organisational structure, leadership and support
- Information management strategy and practice
- Information risk management
- Information technologies
- The information professional

Survey participants

The survey and focus group participants were drawn from a range of industry sectors (Table 1) and from both small and large organisations. Primary job responsibilities included general management, strategy and business development, information and research, compliance, records and document management and IT management.

<table>
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<th>Survey participants by industry type (n=18)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government/Public Sector</td>
<td>44%</td>
</tr>
<tr>
<td>Professional Services</td>
<td>18%</td>
</tr>
<tr>
<td>Electricity, Gas, Water &amp; Waste Services</td>
<td>11%</td>
</tr>
<tr>
<td>Education and Training</td>
<td>11%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
</tr>
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Table 1: Participants by industry type
ORGANISATIONAL STRUCTURE, LEADERSHIP AND SUPPORT

To manage EIM effectively requires senior-level commitment, sponsorship and the support of business unit leaders and IT. However, turbulent economies and changing socio-technical environments are presenting significant uncertainties for organisations and impacting upon their direction, revenues and profitability. A predictable consequence of the current business climate, are organisational reviews to identify areas where efficiencies can be gained and (re)-structured to drive revenue growth. This presents a critical challenge for EIM in terms of gaining business engagement and justifying the necessary investments for managing information as a strategic asset to deliver sustainable value, support agility and mitigate risk.

The objective of this part of the survey is to gain insights into the nature and importance of information management (IM) within organisations. Questions sought to identify:

- who (or which role) in the organisation is the champion of IM and which groups or departments were largely responsible for IM
- the levels of recognition of IM as a distinct professional practice and support for training and IM skills development.

Varying locations and changing organisational structures

The responsibility for information management and the location of information specialists varied in different organisations. What is clear is that there are now many departments and groups within an organisation who have a stake in the management of information. This sometimes appeared to be a contentious issue and for some organisations the locus of information management responsibility had changed, alternating between a business and IT emphasis.

“I’ve been through a number of restructures and I’ve seen the function change within the business. Records management was in the finance and business services area then it got moved to the IT section then it got moved back to the finance and business services area and now we are back in the IT area. And I feel it’s wrong, I don’t feel comfortable because its focus is very much on the technology ...”
Similar findings are found in other surveys\(^1\). A survey of enterprise information governance (Economist Business Intelligence Unit 2008, 3) found that only 46% of respondents reported that organisational structures around enterprise information governance\(^2\) were somewhat or very effective. Further, a recent business information survey conducted annually in the UK (Foster 2010) found: a wide range of reporting relationships for library/information services in different organisations, such as business development, human resources, IT and procurement, with mixed views about their efficacy (pp. 11-12); and a tendency for information services type roles shifting toward the support of business development and compliance teams (p. 16).

A shift in attitudes and perceptions appears to be occurring with respect to accountabilities and responsibilities for critical business information with some views pointing towards the need for cross-functional stakeholder groups (Ashley & Williams 2009, 10). Whilst specific to the further and higher education sector in the United Kingdom, the JISCinfoNet (2008) survey found that there was an argument to position the records management function alongside “other sources of institutional advice and guidance” such as staff development and training function. However, it was also highlighted that this would require a “reinvention” of the records management function towards a more “frontline, interventionist role.” This in itself requires different organisational structures, the establishment of new roles and the acquisition of new skill sets (Logan et al. 2010, 5); an issue discussed in further detail below.

Whilst the evidence is limited, the business information survey (Foster 2010, 11) highlighted opportunities for a more cross-enterprise and integrated view of IM arising from recent restructuring efforts in organisations to “achieve greater coherence and coordination” between their business units. One interviewee commented that with “the rethinking about structure and more collaboration” has come the discovery of “various ‘information people’... around the company” (p.11). However, concomitant with restructuring reviews is the arbitrary nature by which information services may be positioned in the organisation with one interviewee commenting that that “a short-term fix might be with Information Systems/IT ... [or] ... we could be farmed out to one of the business operating divisions” (p.11); a finding echoed in this pilot survey and a key challenge in terms of gaining business understanding and engagement.

A common message from respondents in this pilot survey was that the management of information is a distinct business activity and whilst inextricably linked to the management of information technologies, it should be given specific attention.

These views are supported by a recent Gartner report (Logan 2010, 3), which expressed the problematic nature of positioning information management as an IT responsibility in terms of an “information paradox.” That is, IT has a tendency to produce more information in response to users’ expressed information needs, “instead of getting a better understanding of those needs.” Further, there is evidence of a downward trend away from IS/IT having primary responsibility for the management of electronic records (Ashley & Williams 2009, 11).

\(^1\) See Appendix One for details of surveys.
\(^2\) Defined as the way in which “information is controlled, accessed and used” (p.3).
“Champions” of information management

The responsibility for championing IM in organisations also varies, with the CIO and records managers mostly identified as the key sponsor or “champion”. However, what was clear from the survey respondents’ comments is that strong leadership is required to give visibility and importance to information management.

“... very much depends on the CIO. Because the person who was the CIO previously had a broad view of information services within the business and he was especially good at information management. Whereas the view of the current CIO is so much technology focused. So in our business it really depends on who is in charge.”

Greater engagement from senior management is a consistent theme across different surveys. It is viewed as a critical factor in creating an integrated approach and developing a culture of collective ownership and accountability for organisational information (Ashley & Williams 2009, 49; The Economist Intelligence Unit 2008, 6). However, it is not without challenges. Findings from The Economist Intelligence Unit (2008, 10) survey showed that determining who is responsible for and establishing ownership of such initiatives is difficult as it crosses all organisational boundaries and there is limited guidance currently available.

There also appears to be mixed views as to whether or not the CIO is the best advocate for information management initiatives. A recent Gartner report (Mahoney and Raskino 2010) called for the redefinition of CIO responsibilities “around new forms of information and process management, ... [and] ... less around the tangibility and engineering complexity of technology” so as to better identify new “forms of value.” This raises interesting questions as to how this impacts on the nature of activities that fall within the CIO ‘domain’ and the way in which CIOs (re)orient and tailor their roles and responsibilities (or not) alongside counterparts in legal, compliance, audit, human resources and other business unit areas in providing information management solutions to meet organisational purpose and culture.

Support for information management in principle but questionable in practice

There was strong agreement that effective information management is considered important in assisting organisations to achieve their objectives. However, there were strong indications that whilst there was support for information management in principle this support may be lacking in practice.

For example, the degree to which organisations recognise the need for information management skills was found to be significant. However respondents reported a less positive
response for the extent to which employees are encouraged by their organisations to undertake relevant training to improve such skills.

These findings reflect similar responses to surveys conducted in varying locations, diverse types of organisations and over different time periods. For example, 89% of respondents in the Deloitte (2009) survey of CIOs located in public and private sector organisations in Ireland indicated that information is viewed as a strategic asset and its management as a priority. However, only one third of respondents were aware of expenditure made on information management in their organisation. In the Economist Intelligence Unit (2008, 11) survey 63% of respondent (27% of whom identified themselves as the chief executive officer (CEO), president or managing director) reported that executive leadership understand the need for proper information governance. However, 35% of the respondent organisations were found to operate without defined policies relating to the storage and sharing of information between employees and other stakeholders.

Table 2 sets out the responses to a question in the LexisNexis (2010) survey about what organisations had done in the past two years to assist white collar professionals managing information efficiently.

<table>
<thead>
<tr>
<th>Base: Total Professionals</th>
<th>USA</th>
<th>AUS</th>
<th>China</th>
<th>GBR</th>
<th>South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided information management technology designed specifically for professionals within your industry</td>
<td>25%</td>
<td>39%</td>
<td>62%</td>
<td>61%</td>
<td>59%</td>
</tr>
<tr>
<td>Offered training in information management</td>
<td>28%</td>
<td>22%</td>
<td>61%</td>
<td>64%</td>
<td>58%</td>
</tr>
<tr>
<td>Brought in outside consultants to analyse and improve the organisation’s information management systems</td>
<td>15%</td>
<td>18%</td>
<td>51%</td>
<td>37%</td>
<td>45%</td>
</tr>
<tr>
<td>Helped you to make better use of information filters (e.g., RSS feeds, Twitter decks) that are available</td>
<td>16%</td>
<td>5%</td>
<td>59%</td>
<td>31%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Table 2 LexisNexis Workplace Productivity Survey

As seen in Table 2, professionals in Australia and the USA received significantly less assistance than those in Great Britain, China and South Africa.
INFORMATION MANAGEMENT STRATEGY AND PRACTICE

There is a strong imperative and widespread need to improve information management practices (defined as the capability to manage information over its lifecycle) and information behaviour and values (defined as the capability to “instill and promote behaviours and value” for the effective use of information) particularly in the areas of assurance, organisation and sharing (Pointing et al. 2009). The recent economic downturn has heightened concerns. Findings from the LexisNexis (2010) workplace productivity survey, showed that:

- A majority of white collar professionals in every country reported that the amount of information they have to manage at work has significantly increased since the economic downturn.

- On average professionals reported that more than half of their day is spent on receiving and managing information, rather than actually using it for their jobs.

- One third to one-half of professionals report that the information received at work each day is not important in completing their work.

- Majority of professionals (62% on average) reported that the overload of information is having a negative impact on their performance at work as information can not be organised fast enough.

An information strategy is widely viewed as way to guide organisations towards a coherent and integrated approach for effectively managing information to support business objectives. Yet, there is limited information available about strategies and practices adopted in Australian organisations.

In this section we report on the questions and discussion relating to the development of an enterprise information management (EIM) strategy within organisations. Our interest is in identifying whether organisations have a defined enterprise information management strategy and, if so, what benefits and challenges arise from such a strategy. Further, we report on organisational capabilities in effectively managing information.

Importance of an information strategy

More than half of respondents reported that their organisation already had a documented EIM strategy in place or that they were currently in the process of creating one in their organisations.
Similar findings are found in other surveys. The Deloitte (2009) survey showed that 62% of respondents planned to develop an information management strategy over an 18 month period. The Economist Intelligence Unit (2008, 3-4) survey showed that whilst only 38% of respondents had a formal enterprise wide information governance strategy in place, 77% of respondents expected the importance of information governance to be critical to their company’s success over the following three years. Of companies that had a formal information governance strategy in place:

- 81% reported that information could be shared more effectively which allowed for better decision making;
- 92% rated their company’s ability to provide access to critical business information when needed as good to very good;
- 85% rated their company’s ability to protect sensitive information as good to very good compared with only 51% for those that did not have a formal strategy (p.11).

In those organisations where an EIM strategy existed it was most often approved by the CEO or in public sector organisations by the Director General, followed by the Board or Executive Management Team. In most cases the EIM strategy was then communicated throughout the organisation via the organisational intranet.

The importance of information strategies was also highlighted in a recent Gartner report relating to the CIOs role in managing the expanding universe of digital technologies (Roberts et al. 2010, 4). Effectively managing rapidly expanding information flowing from a multitude of digital technologies (including not only “traditional” IT, but also “those embedded in products and consumer devices”) is of increasing importance. These technologies, many operational such as navigation and tracking systems and robotic and production control systems may create challenges arising from multiple stand-alone technologies that fragment information and processes and duplicate resources across the enterprise value chain. The report highlighted the importance of integrating information strategies in bridging “disconnects in the digital technology value chain” (p.5).

The reasons for having an EIM strategy are discussed below.

**Better use of information and meeting compliance requirements**

The main reasons given for developing an information management strategy were:

- the desire to make **better use of information**
- to meet **regulatory compliance** obligations
- better **management of information assets** (in particular information costs and risks across the whole organisation).

These findings are consistent with The Economist Intelligence Unit (2008, 16) survey, set out in Table 3, with the exception of the catalyst relating to competitive advantage over other companies. This may be explained by the strong public sector representation in this pilot study.
A desire to make better use of our own information 30

The need to better manage cost/risk/return tradeoffs across the enterprise 27

Competitive advantage over other companies 12

Meeting regulatory compliance requirements 11

Recovery efforts following a data breach 2

Table 3: Primary catalyst for developing an information governance strategy

Better access to information, through an holistic and integrated view of business unit and enterprise information, was identified by 25% of respondents in Gartner’s 2009 Business Pulse Survey (Logan et al. 2009) as critical in improving the quality and timeliness of information. Further, the Cohasset & ARMA survey (Ashley & Williams 2009, 12) revealed that most organisations were not prepared to meet many of their future compliance and governance responsibilities because of poor retention and disposition of their electronically stored information and records. Hence it is not surprising to see better use of information and compliance obligations consistently reported as major catalysts in developing an information strategy.

**A way to gain support from senior management**

Developing an EIM strategy was considered as not only having “to come from the most senior managers in the organisation” but also as a way of enrolling and gaining support from senior management.

“... so that you can give the picture to senior management who are going to be sponsoring the system so that they actually understand what you are talking about and crystallise their expectations around how and why and what is the focus.”

**Understanding the information landscape**

The other motivation for pursuing an information strategy was as a means of mapping and understanding the information landscape. It appears the development of the information strategy provided the opportunity to conduct a more extensive information audit and to make the sources, systems and practices associated with EIM more visible.
[Need to talk] “to your IT team ... what is the obvious collections and what systems are we using and therefore where is our information hiding. And going out and talking to the different parts of the business and saying what are you creating, how are you creating your information, what does it look like and why do you do it. So it is about getting a good understanding of your landscape and then going so this is what it looks like now, and if we want to be better at this, if we want to harvest the value, if we want to create knowledge from our information, what do we need to do.”

Benefits and challenges of an information management strategy

Identified in order of importance, the greatest benefits of an EIM strategy are seen as:

- **Information sharing** - information could be better shared between departments, allowing for better decision making
- **regulatory compliance** - reducing the likelihood of non-compliance with regulatory requirements
- **integrated information and better business intelligence** - an EIM strategy led to the provision of more integrated information and provided better business intelligence about customers, products and resources that could be leveraged for greater business results
- **effective disposition** - the strategy also emphasises disposal schedules and encouraged the proper disposition of information when it is no longer needed, thereby reducing information integrity and authority risk.

Similarly information sharing was identified in The Economist Intelligence Unit (2008) survey as the greatest benefit arising from an EIM strategy. This was followed by integrated information, the better protection of sensitive information and fewer errors. Compared to this survey, regulatory compliance and effective disposition were fifth and sixth in order of importance. However, given that The Economist Intelligence Unit survey was conducted prior to the current economic downturn, respondent views on benefits may well have changed.

Respondents also identified a number of key challenges associated with the implementation of an EIM strategy. These include:

- **enforcement** - enforcing policies companywide was seen as a major challenge
- **management support** - gaining support from management was seen as essential but not always possible
- **funding** - funding the initiative was also problematic in some organisations

The Economist Business Intelligence Unit (2008) survey revealed the identification of cost/risk/return tradeoffs of managing information companywide as a major challenge, followed very closely by the enforcement of policies companywide. Gaining support from department heads and lines of business managers as well as convincing executive management to support to the initiative were viewed as the next most challenging issue. Funding
challenges, were not identified as highly as this survey, however, financial restraints may not have been as critical when the survey was conducted over two years ago.

In addition to these challenges associated with the EIM strategy, survey respondents also identified a number of other challenges as reported below.

**Business classification schemes are not intuitive for users**

Business classification schemes (BCS) whilst only one element of an EIM strategy are viewed as a challenge. They are not necessarily intuitive for the user and were challenging in terms of raising conflicts between organisational and individual practices.

“Some of the problem with BCS is that ... we have all been able to create our own and it’s been unique to us so you know I’ve got a filing system on my network drive and I’ve got my folders for my email and it’s completely unique to me, no one else has to use it, no one else has ever seen it, and its been like that maybe for my whole working life. And now I’ve been told that I’ve got to compromise and use a scheme that means something to everybody so there’s going to be something there that I don’t like”

“The everyday user is not familiar with, does not have an understanding of the business classification scheme and the requirements ... People out there aren’t all that interested in classification, they want to know how and where the documents are in a way that’s comfortable for them.”

**Managing unstructured information, expectations and “unanticipated audiences”**

Unstructured information appears to be managed more by individual business units outside of IT oversight and possibly with technologies that IT are not gatekeepers over. Thus bringing a wide range of diverse methods and practices, which were difficult to harmonise and govern.

Individual business units were identified as having greatest responsibility for the management (creation, use and disposition) of communication information (including email, instant messaging and collaboration tools) and document objects (such as word processing, presentations and spreadsheets).

Management of data objects (for example application data) were more equally divided between individual business units and the IT department.

“People tend to think in terms of document as an object in terms of managing it and not the information on the face of the document ... not sure we are managing documents properly in organisations.”
Survey respondents raised concerns about the effective management of unstructured information on behalf of whom, at what point in time and for what purpose.

“You may get that unanticipated audience for a document. A document that lives for 30 years you can not possibly anticipate who the entire audience will be but the thing that you do know is what it is about and you classify it based on what it is about.”

Participants were not suggesting that all organisations required sophisticated records management solutions, but that all departments would benefit from the application of well-understood principles and practices of information lifecycle management.

“... if I am manager of a department, and say one that has nothing to do with finance, but I have to approve some spending it doesn’t matter that finance is not my job, I still need to understand the requirements, that I follow the rules correctly and use the system that is provided and that’s not optional. I don’t understand why people think it is not optional for finance but it is optional for information management.”

These views are supported by the Gartner Information Paradox report (Logan 2010, 3), which highlighted the need for common integrated practices at a workgroup, process and enterprise-wide level. Information management practices at the group level were found to be “practically nonexistent” with workers attempting to share documents in group drives “usually with no overall plan for filing, common naming conventions or any other information management technique.” Further, “rogue databases and Excel spreadsheets” created by sales and marketing, accounting and finance workers were found to be the solution for more structured information, because of the “lack of devolved information management.” Managing information on a workgroup level and relating it to enterprise level information using formal information management techniques was identified in the report as key to being able to successfully share and exploit information. Further, the report also highlighted that EIM requires not only enterprise-level vision and strategy but also “localised processes, skills, governance and metrics.”
Organisational abilities

Respondents reported a wide diversity in current information capability (Table 4).

44% of respondents rated their organisation’s ability to access critical business information when needed as neither good nor poor, with 39% as good to very good. The results from the Deloitte (2009) survey showed similar findings with a third of respondents indicating that the business does not have timely access to the information they require to make decisions.

Respondents were evenly divided between the good, neutral and poor categories in terms of their organisation’s ability to integrate and share information across departments and third parties.

<table>
<thead>
<tr>
<th>Ability to provide access to critical business information when needed</th>
<th>Good to very good (%)</th>
<th>Neither good nor poor (%)</th>
<th>Poor to very poor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to integrate and share information across departments and third parties</td>
<td>39 (73)</td>
<td>44 (18)</td>
<td>17 (8)</td>
</tr>
<tr>
<td>Ability to manage the cost of collecting, storing &amp; securing information throughout its lifecycle</td>
<td>33 (43)</td>
<td>33 (36)</td>
<td>34 (21)</td>
</tr>
<tr>
<td>Ability to create business value from its information assets</td>
<td>12 (51)</td>
<td>67 (30)</td>
<td>22 (17)</td>
</tr>
</tbody>
</table>

Table 4. Organisational abilities: information access, integration, cost and value (brackets represent results from The Economist Intelligence Unit Survey (p.14))

Fifty percent of respondents rated their organisation’s ability to manage the cost of collecting, storing and securing information throughout its lifecycle as neither good nor poor, with 33% rating it as good to very good.

12% of respondents rated their organisation’s ability to create business value from its information assets as good to very good, with 67% of respondents rating it as neither good nor poor and 22% as poor to very poor.

The Economist Intelligence Unit (2008) survey findings are significantly different in most cases as set out in Table 4. This may be partly explained to the respondent group consisting solely of business executives and the smaller sample size in this pilot study. However, while 73% of respondents perceived their access to information as good to very good, only 51% perceived the ability to create business value from its information assets as good to very good. Interestingly this is a consistent trend across the two surveys.
Top three challenges over the next two years

The top three challenges or priorities that were identified by respondents in the development of their organisation’s information management practices in the next two years were:

- adding value and working closely with clients;
- managing and developing staff and recruiting staff with required knowledge, skills and experience; and
- organisational and management issues such as cost control and budget restrictions as well as identifying and implementing the most appropriate technologies.

The Gartner information paradox report (Logan 2010, 2) also identified the following common challenges:

- compliance and legal risks and lack of transparency
- information overload
- process inefficiency due to poor information availability
- difficulty in locating and exploiting valuable information
- stalled IT and business programs, such as records management and master data management
- inability to deal with or properly govern new forms of external information such as social media

At the core of each of these challenges is the “lack of holistic information management” (p.2).
Significant investments have been made in information management technologies over the past few years. Two of the six factors identified in the Cohasset & ARMA sponsored survey (Ashley & Williams 2009, 5) as influential in improving digital records management were: the increasing reliance on diverse applications and systems; and “robust and integrated” enterprise content management technology solutions and services that are now offered in the marketplace. However, 20% of business leaders in a Gartner report (Logan 2010, 2) reported that despite massive investments in information management technologies they still did not have the information they required to run their businesses. Further, the LexisNexis survey (2010) revealed that 95% of Australian professionals agreed that while search engines provided access to large amounts of information it did not assist them with organising it to meet their professional needs effectively. These mixed views raise the question of what types of information management systems and applications are currently being used in Australian organisations.

Respondents were asked in this survey to identify the range of technologies for information management that were currently in use within their organisations. Not surprisingly (as shown in Table 5 below) the findings indicate a wide range of applications and systems.

<table>
<thead>
<tr>
<th>System type</th>
<th>No. of respondents</th>
<th>Specific applications in use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document management system</td>
<td>15</td>
<td>Meridio, Sharepoint (2), Objectives, 80-20, TRIM, Documentum, Matrix, Lotus Notes, Opentext, Edocs DM5.2, internally developed DMS, various systems/unspecified (3)</td>
</tr>
<tr>
<td>Records management system</td>
<td>12</td>
<td>TRIM (4), Objective, Network drives, Documentum, Opentext, Edocs DM5.2, internally developed RMS, unspecified (2).</td>
</tr>
<tr>
<td>Content management system</td>
<td>8</td>
<td>ComWeb, Business applications - Commercial off-the-shelf (COTS) various, HTML no CMS application, Sharepoint, Matrix, Livelink, unspecified (2).</td>
</tr>
<tr>
<td>Portals</td>
<td>6</td>
<td>Sakai, Sharepoint (2), internally developed, unspecified (2).</td>
</tr>
<tr>
<td>ERP</td>
<td>5</td>
<td>SAP (3), Maximo, unspecified (2)</td>
</tr>
<tr>
<td>Wikis</td>
<td>2</td>
<td>Unspecified</td>
</tr>
<tr>
<td>Blogs</td>
<td>1</td>
<td>Unspecified</td>
</tr>
<tr>
<td>Other Web 2.0</td>
<td>1</td>
<td>Unspecified</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>Outlook, Collaboration sites (Sharepoint, GovDex, Intranet), Shared drives, structured repositories, e.g. student systems, CRM, Finance systems</td>
</tr>
</tbody>
</table>

Table 5. Systems and technologies used in managing information
Identifying and implementing appropriate technologies was viewed as a key challenge for information management as there are a range of technologies available which have evolved from different traditions, such as TRIM from a records management tradition and LiveLink from a content management tradition. These bring with them different functionality and different approaches and focus. For example a content management system with a genealogy in the document management tradition (such as Documentum) places greater emphasis on document control, accession, archiving etc. whereas a CMS from the web asset management tradition (e.g. Interwoven) may place more emphasis on server management, re-use, data integration.

There is a wide range of systems and functionality available and knowing what exists, what is actually required and what could be required in the future is challenging. These findings are consistent with Venture Management Information Value survey (Pointing et al. 2009) results, which found that while IT practices were mostly satisfied, innovative capabilities in terms of, for example, the evaluation of new applications and hardware, was less than satisfactory. Notwithstanding that the respondents from the Venture Management survey were all from oil exploration and gas companies in the UK it still highlights challenges for organisations in their adoption decisions and evaluation processes.

Legacy systems also created additional complexity in the adoption, selection and implementation decisions. For example, an issue highlighted in this survey in terms of systems adoption by users was the challenge of multiple storage devices. “Shutting shared network drives down” was viewed by some as necessary in ensuring that electronic document and records management systems were used effectively.

In addition, business processes are not static, but evolve along with the business. Selecting products requires a match between the capabilities of the products and both current and future business requirements.

“[it] ... comes down to the business process and understanding of whether you need to change it. I’ve seen this in a number of organisations and being able to document all your business processes and getting the business requirements right before we get the product. And while I agree that it makes nice perfect sense, steps could be missing because business processes are not static ... So you have to focus on what the core benefits will be.”

These findings point to not only multiple and complex factors impacting upon technology decisions, but also as highlighted in the Gartner information paradox report (Logan 2010), the need for an integrative view through an EIM program to avoid application-specific or siloed information management. Findings from the Economist Intelligence Unit (2008, 6) survey also revealed that while technology has been a significant focus of information management initiatives, realising the full value of information depends on designing “policies and procedures that govern and control its use, access, analysis, retention and protection.”

3 Defined as the “capability of a company to deploy appropriate IT applications and infrastructure in support of operational, decision-making and communication processes.”
IDENTIFYING INFORMATION RISKS AND RESPONSIBILITIES

Effectively managing information and IT related risks, is an increasingly important and multifaceted endeavour for organisations. Results from the 2010 IBM Global IT Risk study (Ban et al. 2010) revealed that whilst the significance of risk management and compliance is widely acknowledged, few organisations are totally prepared for the number of risk and compliance related situations that may arise (p. 8). Emerging technologies, such as social networking tools, mobile platforms and cloud computing are presenting further concerns with most risks associated with the accessibility, use and control of information, unauthorised access to confidential, proprietary information and data protection and privacy (p.7).

Information is a common concern in all aspects of IT risk management, covering areas such as business resilience and continuity, disaster recovery, security, compliance, infrastructure and data management (p.9). Theft of confidential information/business information and intellectual property as well as the unauthorised disclosure of confidential or sensitive information also featured as incidents of fraud and unethical behaviour in the recent KPMG Fraud and Misconduct Survey (2010).

The Cohasset & ARMA survey (Ashley & Williams 2009, 12) also identified that with the pace and nature of change in the way that information and records are managed is also the potential for significant risks associated with cost, internal controls, careers and corporate reputations.

To assist in understanding how organisations are working to manage information risks in their organisations, this survey investigated what the current significant risks are and who is responsible for managing them.

The most frequently identified risks were associated with managing the organisation’s information assets. Most significant was compliance (other than privacy), followed equally by privacy, protecting intellectual property and information security. These findings are consistent with the Foster (2009) Business Information Survey. In addition, the Foster (2009) survey highlighted the need to provide more and better advice to users on what and how information could be used.

IT risk was the next most identified risk in terms of its impact on innovation and risks of obsolescence, dependability and mobility.

Finally, auditability and reputation risks were identified as key risk areas.

The survey findings point to challenges in terms of the integrative disciplines of EIM and enterprise risk management (ERM). Given the range of business units identified as responsible for information risks the coordination and control of risk management was seen as a major challenge. Further, the management of risk intelligence itself is a challenge under such circumstances. The risks, uncertainties and opportunities arising from collaborative information production and made available through Web 2.0 tools was identified as a key area
for further attention and investigation; consistent with the Foster (2010) business information survey.

The CIO, internal audit, individual units and other categories were ranked equally in terms of responsibility for identifying information risks in their organisations. The ‘other’ category reflected specific units unique to the organisation. The next most identified category was the chief risk officer (CRO), followed equally by the CEO, chief security officer (CSO), IS/IT and the legal department.

The Economist Intelligence Unit (2008, 11 & 17) survey revealed that the responsibility for identifying risks associated with corporate information is closely split between the CEO (24%) and CIO (28%) although in large companies CIOs were more likely to be responsible for identifying risks. However, in North America, a greater difference was found between the two, with the CIO (26%) more likely to be involved than the CEO (14%).

This finding demonstrates once more the fragmented nature of responsibility for information management within organisations, despite the recognised need for a unified and holistic approach to manage these risks effectively (Ban et al. 2010, 9).

Finally, an increasing area of concern around the issues of information overload and retention is e-discovery risk. The Symantec (2010, 6) survey showed that a common mistake made in organisations was over retaining information in lieu of an information retention plan. Further,

- three quarters of backups have infinite retention or are on legal hold. With estimates of approximately 50 petabytes of backup tape stock in enterprise backup libraries this means that nearly 38 petabytes of backup tape is dedicated to retaining enterprise information forever in a format that is difficult to access and manage;

- one quarter of corporate information was not needed nor should be retained;

- 70% of respondent organisations use backup to perform legal holds;

- 25% of respondent organisations preserve the entire backup set indefinitely;

- 40% of information placed on legal hold is not specifically relevant for the associated litigation

- while 51% of respondent organisations prohibit employees from creating their own archives on their local machines and drives, 65% admit that end users do so routinely;

- close to half of enterprises use their backup software for archiving files and documents, which it was not designed to do nor is effective at doing.
WHO IS THE INFORMATION PROFESSIONAL?

The strategic planning assumptions outlined in the Gartner Key Issues for information management (IM) report (Logan et al. 2010, 2) predicted that by the end of 2011, positions and roles related to IM would double, most of which would be located outside of IT organisations.

This survey aimed to identify who is the information professional and what is the range of skills and knowledge required for effective information management. The diversity of knowledge and skill sets is summarised in Tables 6 and 7. Table 6 contains the list of key skills and knowledge required for effective enterprise information management and Table 7 contains a list of wider skills that are required by the information manager as a key strategic agent in the organisation. It presents an interesting backdrop in terms of one of the top three challenges identified previously, that is, managing and developing staff and recruiting staff with required knowledge.

<table>
<thead>
<tr>
<th>Key Skills and Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT and application skills (7)</td>
</tr>
<tr>
<td>Regulation and compliance (incl privacy &amp; FOI) (8)</td>
</tr>
<tr>
<td>Records management (5)</td>
</tr>
<tr>
<td>Business process analysis/mapping/reengineering (4)</td>
</tr>
<tr>
<td>Systems architecture/Databases/Data management (4)</td>
</tr>
<tr>
<td>Business and needs analysis (3)</td>
</tr>
<tr>
<td>Metadata/application (2)</td>
</tr>
<tr>
<td>Corporate information systems (2)</td>
</tr>
<tr>
<td>Information requirements (2)</td>
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<td>Security (2)</td>
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<tr>
<td>Configuration management</td>
</tr>
<tr>
<td>Information architecture</td>
</tr>
<tr>
<td>Information, document and lifecycle management</td>
</tr>
<tr>
<td>Standards</td>
</tr>
</tbody>
</table>

Table 6: Key information management skills and knowledge
Change management (7) | Business acumen
---|---
Communication skills (5) | Team relationship skills
Project management (4) | Networking skills
Creativity and flexibility (3) | Emotional intelligence
Consulting (2) | Get senior leadership on side and resources to do the job/Ability to influence at all levels
People skills (2) | Grass roots experiences
Governance, strategy and policy development (2) | Know your customer
Negotiation (2) | Training and patience
Research/Identify emerging issues (2) | Ability to “sell” a vision/ Spruiker
Risk management | Manoeuvrability
Business acumen | Mediation
Professional ethical standards and social responsibility | Common sense
Critical, reflective, analytical and creative thinking (2) | Thick skin/Lack of sensory skills
Problem solving | Governance

Table 7: Supplemental information management skills and knowledge

The ‘image’ of information management and appropriate recognition in organisations was presented as a challenge.

“... information professionals is a bit of a casual kind of term and there are lots of different flavours. If you go to a library and ask them are you an information professional? They would say “yes of course” but they may know nothing or very little about records management or archives or whatever. So you’ve got a whole basket of people who have some specific knowledge about particular kinds of information or different methods of dealing with information and there has sort of been a merging I guess of lots of people in those areas either expanding their own skill sets ... It kind of enhances good general knowledge about information. I don’t think there is a big tick description that says “that is an information professional””
“it would depend on the level you are at and the type of organisation you are working for but you need to have a technical specialisation. And you need to be current you need to know what is going on with technology as well work practices as well as human behaviour and organisational change and about servers and configurations and all those types of things. But no one wants to pay people if you are working with information management in an organisation. There is no recognition that it is a highly skilled area even though there is a major skills crisis.”

The JISCinfoNet (2008) survey, whilst focused on the further and higher education sector in the UK electronic records management, also found a “broad interpretation” of what constitutes records management staff. In addition to those designated with a central records management function, departmental clerical and administrative staff were also included.
SUMMARY & FUTURE WORK

The aim of this research study was to identify key imperatives and challenges associated with enterprise information management (EIM) in an increasingly distributed and devolved information environment. The pilot survey and focus group findings revealed a number of issues, arrangements and challenges faced by organisations in developing capabilities to effectively manage information across the enterprise, summarised below.

The current arrangements for EIM are varied and changing in organisations

- Many departments and groups are involved in EIM
- The management of information is a distinct business activity
- Whilst linked to the management of information technologies, EIM should be given specific attention

Strong leadership is required to give visibility and importance to EIM in organisations

- responsibilities for championing EIM in organisations vary
- the CIO and records managers mostly identified as the key sponsor or “champion”
- strong indications of support for EIM in principle but may be lacking in practice

More than half of respondents had a documented EIM strategy or were in the process of creating one, with identified benefits including

- better sharing of information between departments, allowing for better decision making
- reducing the likelihood of non-compliance
- integrated information and better business intelligence that could be leveraged for greater business results
- encouraging the proper disposition of information, reducing information integrity and authority risk

Top three challenges over the next two years identified as

- adding value and working closely with clients
- managing and developing staff and recruiting staff with required knowledge, skills and experience
- organisational and management issues such as cost control and budget restrictions as well as identifying and implementing the most appropriate technologies

Diverse range of knowledge and skill sets required by the information manager to be a key strategic agent in the organisation

- yet the professional image of information management and appropriate recognition in organisations is viewed as challenging
Next steps

The insights gained from the pilot study have helped to shape a future research agenda. Over the next 18-24 months we will continue the series of surveys, focus groups and in-depth practice case studies to address research in the following four inter-related areas.

Developing an EIM capability

The findings from this study point to future work directed towards understanding how organisations achieve effective enterprise information management and develop the necessary capabilities with a specific focus on:

- the relationship of EIM with other integrative and information management based disciplines particularly enterprise content management (ECM), business intelligence (BI), enterprise performance management (EPM), business process management (BPM), change management and governance, risk and compliance (GRC) for delivering multi-service solutions
- best practices for organising and implementing EIM
- methodologies to assist with identifying vital data and content for the purpose of demonstrating information readiness in the organisation
- designing actionable policies and practices that support collaborative accountabilities and the effective retention and disposition of information

Enterprise/Web 2.0:

The changes that arise with the introduction of collaborative technologies and the distributed creation, storage, management and disposal of business information raise a number of key issues. In particular there is still considerable uncertainty around the most effective strategies and tools for collaborative tagging, information stewardship, content integration and content assurance and control. Further work is required to understand emerging best practice in these areas.

Role of the information professional

The ability to deliver value to organisations is recasting the role of information professionals as strategic or business partners to senior managers advising on the contribution of information management to business competitiveness and advocating organisational change. However, there is limited understanding as to how information professionals interpret this role which is multifaceted and complex. Further work is required to capture the changing nature of the roles in information management.

Governance, Risk and Compliance (GRC) strategies, methodologies and technologies

GRC strategies, methodologies and technologies are important elements of information management decision-making having regard to the widespread recognition for an organised and effective approach to enterprise records and content management so as to avoid regulatory and legal sanctions. Further work is required to assist in understanding the organisational role for information managers in establishing standards, policies and processes as part of an enterprise wide approach in addressing risk, compliance and performance considerations.
Acknowledgements and call for future participation

The research team would like to thank all the individuals and organisations that provided information and participated in this first stage of the Developing an Information Capability Project. If you are interested in being involved in the future stages of the research project please contact us via email.

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Professor Susan Williams

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## APPENDIX ONE - OTHER SURVEY DETAILS

<table>
<thead>
<tr>
<th>Author</th>
<th>Survey Name</th>
<th>Participants</th>
<th>Source/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashley, Lori J &amp; Williams, Robert F. Williams (co-sponsored by Cohasset Associates &amp; ARMA) (2009)</td>
<td>2009 Electronic Records Management Survey</td>
<td>1,190 records, archives &amp; information management professionals</td>
<td>Members of: ARMA International; Business Forms Mgt Association (BFMA); MER conference registrants &amp; Records Mgt LISTSERV</td>
</tr>
<tr>
<td>Deloitte (2009)</td>
<td>CIO Survey 2009</td>
<td>48 CIOs/IT managers across the public &amp; private sector</td>
<td>Ireland</td>
</tr>
<tr>
<td>Economist Intelligence Unit Briefing Paper (2008)</td>
<td>The future of enterprise information governance</td>
<td>192 business executives C-level titles (40%)</td>
<td>North America (30%), Western Europe (30%), Asia-Pacific (30%), Latin America, Middle East, Eastern Europe (10%). 46% from companies with annual revenue greater than US$1billion. Range of business functions and industries.</td>
</tr>
<tr>
<td>Foster (2009)</td>
<td>Battening down the hatches, The Business Information Survey 2009</td>
<td>23 information managers</td>
<td>In depth telephone interviews of respondents from legal services (30%), investment banking (22%), consulting &amp; professional services (22%), insurance (9%) and other financial services (17%).</td>
</tr>
<tr>
<td>Foster (2010)</td>
<td>The Boss just said ‘do more with less!’ The Business Information Survey 2010</td>
<td>22 information managers</td>
<td>In depth telephone interviews of respondents from legal services (27%), banking (27%), consulting &amp; professional services (18%), manufacturing (9%), other financial services (14%)</td>
</tr>
<tr>
<td>Source</td>
<td>Study Title</td>
<td>Institutions</td>
<td>Country</td>
</tr>
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<tr>
<td>LexisNexis (commissioned by LexisNexis &amp; conducted by WorldOne)</td>
<td>LexisNexis 2010 International Workplace Productivity Survey</td>
<td>1700 white collar workers (1100 non legal and 600 legal professionals)</td>
<td>Interviews conducted in five countries represented by: United States (500 online interviews), China, South Africa, United Kingdom &amp; Australia (1200 telephone interviews across remaining 4 countries).</td>
</tr>
<tr>
<td>Symantec (2010)</td>
<td>Symantec 2010 Information Management Health Check Global Results</td>
<td>Senior IT and legal executives across 1,680 enterprises</td>
<td>Telephone survey from 26 countries represented by North America (300), Latin America (300), Europe, Middle East &amp; Africa (330) and Asia/Pacific (including Japan) (750). Variety of industries.</td>
</tr>
</tbody>
</table>
REFERENCES


