Enterprise Information Management Readiness: A survey of current issues, challenges and strategy

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Abstract

In recent years organisations have witnessed considerable change in their information environment including the increasing volume of new (and mostly unstructured) information types. The imperative to manage this information across its entire lifecycle presents considerable challenges. This paper outlines the findings of an in-depth survey of information professionals addressing drivers, issues and challenges of Enterprise Information Management (EIM). The current status of EIM strategy and its benefits and challenges are addressed. The survey reveals that the drivers for EIM are diverse ranging from obtaining business value to meeting regulatory compliance. The study also shows that EIM drivers cannot be simply reduced to a series of technical or organisational needs but reveals EIM as a complex sociotechnical phenomenon. Few organisations have enterprise-wide EIM strategies in place; those who have them are better able to keep track of and achieve performance objectives. The survey sets the basis for further research investigations in supporting organisation in their EIM initiatives.

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1. Introduction

In recent years the topic of Enterprise Information Management (EIM) has received increasing attention. The total amount of information available to organisations as well as information produced by organisations is growing exponentially and renewed attention is being placed on the effective management and protection of information as a key corporate asset [1]. While concerns of information management are not new, the types of information and the way they need to be managed have changed [2]. Increasingly the information to be managed is unstructured or less well structured, raising new issues for information managers. While structured information such as transactional data in databases or ERP systems is today, largely well managed, challenges remain around the management of unstructured information, which accounts for over 80% of information now being produced [3].

Effectively managing information as a strategic asset is critical for organisations seeking to maximise their business performance and minimise their exposure to competitive and reputational risks. However, managing information across its entire lifecycle from initial creation to final destruction presents considerable challenges to organisations. In order to progress both theory and practice and to be able to assist organisations to achieve greater effectiveness in their information management activities we must have a clear understanding of what these information management issues and challenges actually are and what they mean in the context of achieving an enterprise-wide information capability.

In this paper we present the findings of a survey-based study to investigate the current status of enterprise information management in organisations. The study aims to gain insights into current EIM issues and challenges and to identify potential solutions and research imperatives.

The paper addresses the conference theme “Enterprise Information Systems – aligning technology, organisations and people” through consideration of the imperative for developing integrated information strategies for the effective use and sustainable management of enterprise information management systems.

The paper is organised as follows. The next section provides a brief overview of the EIM literature to provide context and background to the study’s research objectives and questions. In section 3 we present the research and survey design, including the research steps and an explanation of the survey structure. The survey findings are presented and discussed in section 4. The paper concludes with a discussion of the implications of the findings and imperatives for future research.

2. Enterprise Information Management: The Research Context

Enterprise information management (EIM) has been defined as “an integrated discipline for structuring, describing and governing information assets, regardless of organizational and technological boundaries, to improve operational efficiency, promote transparency and enable business insight” [4: p.2]. This definition includes all organisational information, both internally and externally generated and contained in all types of information systems. Information management is an activity that is ongoing and in order to reach its goal it needs to be sustainable [5: p.9]. The goal of EIM is to break down information silos and to provide well-designed and usable information for employees. In summary, the key overarching concepts of EIM are: it is an enterprise-wide initiative, it addresses information across its entire life from creation to destruction and it seeks to derive value from information assets whilst ensuring that information is compliant – meeting information-related standards and laws.

The importance of enterprise information management for ensuring a coordinated and integrated approach to effectively manage and leverage an organisation’s information assets is widely acknowledged [6]. Yet recent evidence suggests that many EIM initiatives are being conducted in a piecemeal fashion, information silos are proliferating and that benefits are not being realised or sustained [7,8]. Not surprisingly questions about the value of an enterprise approach and whether individual business units should steer their own information management initiatives have arisen [9]. Gaining business understanding and engagement to justify necessary investments has been consistently identified as a key issue for EIM over a number of years [10, 7]. White [8] views this as a mindset in organisations whereby information management is considered a “maintenance” issue concerned with physical or virtual storage needs rather than “to manage for business advantage.” Buytendijk and Laney [11] argue that the conceptual terminology dominating information management, such as “metadata” and “governance” has contributed to its relegation to the “IT basement” but that the recent “Big Data” movement has created greater visibility for information management as a critical business need. Are we simply then in the “next phase” of enterprise information management or is this
suggestive of something very different requiring us to reconsider assumptions, processes and practices that are grounded in disciplinary traditions and legacy technologies?

Justifying and deriving ongoing value from EIM poses considerable challenges. It encompasses a range of areas and related technologies such as records management, document and content management, metadata management, master data management, database operations management, business intelligence, data quality, information architecture and information protection. Further, EIM efforts are situated in changing socio-technical landscapes and involve complex information integration issues [12]. Currently research that takes into account the cross-disciplinary nature of EIM is scarce and limited. In addition, industry surveys are fragmented with different foci, such as digital records management (e.g. [13]) and workplace productivity [14] and participant groups that consist largely of business (e.g. [15]) and IT executives (e.g. [16]). Whilst such views are important, we argue that there is a need to garner the views of a wider group of information specialists and middle level managers because of their practical intelligibility (know-how) of work practices.

The next section outlines the aims and objectives of our broader research program and specifically the first phase involving an international survey. In particular we focus on one section of the survey relating to business drivers, challenges and strategy. In doing so we provide insights into factors and processes related to organisational readiness for managing information as a strategic asset.

3. Research and Survey Design

The study reported in this paper is based on the findings of the 2013 Enterprise Information Management Survey [17]. The survey is part of a wider research programme entitled “Developing an Information Capability”; a longitudinal study to examine how organisations are managing the rapidly changing information environment and achieving competences and capabilities towards the long-term, enterprise-wide management of digital information. A pilot EIM survey conducted in 2010 identified the need for a deeper understanding of the issues and challenges of EIM and organisational EIM readiness [18]. The findings from the pilot phase resulted in the 2013 EIM survey, which had the following aims. To identify and understand the:

• current arrangements for EIM in organisations
• current and future issues and challenges associated with EIM
• roles and responsibilities of stakeholders involved in EIM
• information types, technologies and systems that are (or are not) currently being managed
• laws and standards that affect EIM in organisations and
• changing role, skills and knowledge of information professionals

In this paper we focus primarily on the first two aims and report on aspects of EIM readiness and strategy as expressed in the following three research objectives, to:

• identify the range of drivers that shape EIM in organisations
• understand the key (current and anticipated future) issues and challenges of EIM,
• investigate the current status of EIM strategy and its benefits and challenges

Fig. 1 shows the four-phase process that was used to address these research objectives. The study follows an interpretative qualitative research approach. In the first phase, the recent academic and practitioner research on enterprise information management was reviewed and analysed to guide the development of the survey instrument. In the second phase, drawing from the findings of the literature review, the survey questions were designed and tested and the online survey was implemented and piloted. In the third phase the survey was opened to respondents, response data was collected, organised and analysed. In the fourth phase, the results of individual questions were presented and compared and interpretations made about the survey findings.
The survey comprised 36 questions organised into the following eight sections:

- Company and Background (Demographics)
- EIM Drivers & Capabilities
- EIM Strategy
- EIM Challenges
- Information, Systems and Technology
- Standards, Frameworks and Regulations
- Information Professionals
- Feedback

In this paper we report on the findings of the first four sections: Demographics, Drivers and Capabilities, Strategy and Challenges.

### 3.1 Data Collection and Analysis

The survey was developed using the open source online survey application LimeSurvey® and conducted between November 2012 and June 2013. The survey was targeted at individuals with responsibility for information management within their organisation. To this end the invitation to participate was sent to professional bodies and special interest groups representing information-related professionals, including, for example, ISACA, IIM, RIM, Asia Pacific Data Quality Congress and ARK Group.

Respondents were invited to submit their contact details if they were interested in receiving a copy of the survey report and to participate in future studies. Almost all respondents provided contact details. However, for the purposes of analysis all data collected was anonymised, no individual respondent can be identified from the results.

At the end of the data collection phase all data was transferred to a spreadsheet and organised for analysis. We collected demographic information in order to examine potential differences between organisational sizes. Our initial target country was Australia and 71% of respondents came from Australia. However, due to the international reach of many organisations respondents were also located internationally: UK (11%), USA (4%), rest of world (15%). We received submissions from 207 individual respondents. Not all respondents answered all the questions, 87 completed every question and it is these respondents we have focused on in the analysis for this paper. These respondents are individuals with a primary job responsibility in records/document management, IT management and/or strategy and business development representing public sector and government agencies (32%) as well as private sector organisations (68%). 70% of respondents represent medium and large sized organisations with more than 250 employees.

### 4. Survey results and findings

The following sections present an analysis and discussion of the key survey findings about EIM drivers, challenges and EIM strategy.

#### 4.1. Drivers of EIM

Respondents were asked to identify what has motivated and driven the need for EIM over the past two years in their organisation. The results (shown in Fig 2) reveal three important themes.
Obtaining business value. The drivers of EIM that were rated as most important are clearly linked to business performance and the need to leverage greater business value from information by improving the organisation’s ability to access and share information, to re-use information and gain business intelligence. Interestingly, reducing costs (whilst always desirable) was not rated as a very important driver in comparison with the desire to generate business value from information.

Meeting regulatory compliance. In addition to obtaining business value, there is a conformance driver—the need to meet regulatory compliance obligations such as data security and privacy laws and to protect and secure business information assets.

This juxtaposition of these very important drivers presents an interesting and potentially conflicting situation. On one side there are drivers from the business to achieve greater performance and generate business value. On the other side there are drivers to conform with legal and regulatory requirements and protect information assets.

Complexity—drivers arising across the whole information lifecycle. The drivers of EIM are not limited to one aspect of EIM but are arising at all stages of the information lifecycle from information creation through to archiving and preservation of information at the end of its active life. The drivers of EIM are extensive and wide reaching and cannot be isolated to organisational or technical aspects, positioning EIM as a complex, sociotechnical agenda within organisations.

4.2. Current EIM Capability

In order to understand organisations’ current EIM capabilities we asked respondents to rate a series of statements about their company’s current enterprise-wide information management capability (shown in Fig 3). Organisations appear to be meeting the conformance aspects of EIM; the findings reveal that 75% of respondents rated their organisations as very good/good at meeting regulatory compliance requirements. However, the performance aspects of EIM are not yet being achieved. Only 42% of respondents rated their organisations as very good/good creating business value from information and only 38% considered themselves very good/good at providing business intelligence.
4.3. Significant EIM activities for the next two years

We asked respondents to look forward and provide an assessment of the significance for their organisation of a range of key EIM activities over the next two years. The responses (Fig 4) fall into two areas: i) technology and systems and ii) building human capacity. There is a strong focus on EIM technologies, evaluating, implementing or migrating to new EIM technologies and improving existing systems and their integration with other systems are all seen as very significant.

In terms of developing human capacity organisations consider end-user training and managing and developing staff as very significant.

Respondents were also asked how they expect the complexity of EIM to change in the future. 66% of respondents expected EIM to become more complex within the next 2 to 5 years. 16% think it will remain the same and only 17% think it will become less complex.

The findings so far reveal that whilst organisations are aware of the need for EIM and have a clear idea of what is driving EIM in their organisation, their assessment of their own EIM capability indicates that they have not yet reached a state of EIM readiness. This, and the anticipated increase in EIM complexity points to a need for greater understanding of what it means to have an EIM capability and how an organisation might reach an adequate level of EIM maturity. This led us to ask our respondents a series of questions about the existence (or not) of an enterprise-wide EIM strategy in their organisation.
Fig 4: Significant EIM activities for the next two years (sorted by “very significant”)

4.4. Enterprise-wide EIM Strategy

Respondents were asked about the current status of enterprise-wide information management strategy in their organisation. As can be seen in Fig 5, 34% of organisations have a documented and fully implemented EIM strategy; 17% of organisations have a strategy that is currently only partially implemented and 22% have a documented strategy that is not yet implemented. The remaining 27% of organisations do not yet have and/or are not planning to develop an enterprise-wide information strategy. For 84% of respondents from organisations that have an EIM strategy, the strategy was approved by the Executive Board or by specific C-level executives (most usually the CIO) pointing to the high strategic importance of EIM in these organisations.

Fig 5: Status of EIM strategy (sum of responses is 100%)

4.4.1. Benefits and Challenges of an enterprise-wide EIM strategy

We continued to question only those respondents whose organisations have an EIM strategy to indicate the most significant benefits and challenges that an EIM strategy is bringing to their organisation.
The most significant benefits (Fig 6) relate to better information sharing (23%), information integration (13%) and reducing non-compliance with regulatory requirements (16%). Whilst reducing IT costs was seen as a benefit by some organisations (4.3%) it appears that the major benefits are associated with improving the organisation’s use of information. Thus, the benefits serve to meet existing issues of compliance but are also leading to meeting the imperative to derive business value. The key finding here is that organisations with an EIM strategy appear to be better at meeting both the performance and conformance objectives associated with EIM.

Respondents whose organisations have an EIM strategy were also asked to indicate the most significant challenges of implementing an EIM strategy. The findings shown in Fig 7 indicate that having a strategy is only the first step, translating that enterprise wide strategy into business activity was problematic: getting from strategy to action is in many cases proving difficult. For example, 45% of organisations report significant challenges in enforcing policies company-wide and in gaining the support of department and line managers. Thus, whilst having an EIM strategy can lead to significant benefits the challenge lies in effectively implementing it across the entire organisation.
5. Conclusions and implications for future work

The aim of this study was to investigate the current status of enterprise information management in organisations and to identify the issues and challenges organisations are currently facing. Given the enterprise-wide nature of EIM we placed a special emphasis on understanding the current status of EIM strategy.

In terms of the drivers of EIM we see an emphasis on both performance (deriving greater business value and meeting business objectives) and conformance (meeting compliance requirements and protection of information assets). Whilst meeting performance and conformance objectives are high-level strategic goals, EIM drivers are found to impact on every stage of the information lifecycle from information creation to information disposition or destruction indicating a significant need for operational readiness to handle this complex mix of drivers. Finally, EIM drivers cannot be simply reduced to a series of technical or organisational needs but reveal EIM as a complex sociotechnical phenomenon.

In terms of organisations’ current EIM capability the survey reveals that organisations are largely meeting their conformance goals but are still struggling to improve business performance. The challenges that they are facing over the next two years relate to the effective selection and implementation of technology and to developing human capacity in terms of effectively using EIM technologies.

Few organisations currently have an EIM strategy in place across the whole organisation to coordinate and manage EIM activities. The survey indicates that those organisations that do have an EIM strategy in place have been better able to achieve key performance objectives such as improving information sharing and information integration. However, implementing an enterprise-wide EIM strategy is non-trivial and most organisations are struggling to achieve buy-in from departments and to enforce enterprise-wide policies and standards. There is currently limited guidance available in scoping the complexity of the activities and capabilities required to generate and sustain effective EIM strategy. This again points to the need for further research to examine how EIM strategy is being implemented successfully and how these enterprise-wide issues of buy-in and policy/standards enforcement can be most effectively achieved. One direction we are currently following is to examine if, and how, the well-established capability view in the IS scholarly literature (e.g. [19, 20]) and its focus on the strategic value of information system resources provides a potentially useful base upon which to progress EIM research. This forms the foundation and direction for the next stage in this research project, which is currently underway.

References


