

Information Seeking Behaviour of Electronic Document and Records Management Systems (EDRMS) Users: Implications for Records Management Practices

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This article is the first in a multi-part report on whether the way RM professionals manage records in accordance with the ISO 15489 standard is consistent with the information seeking behaviour (ISB) of Electronic Document and Records Management Systems (EDRMS) users, and includes an investigation of how various factors, such as training, individual information seeking styles, tasks, and time, affect the ISB.

Forty EDRMS users in four Australian government organisations – in the utilities, town council, banking and finance industries – participated in the study. Qualitative methods (interviews and protocol analysis) were used to develop a model of the ISB of EDRMS users.

An understanding of how ISO 15489 was implemented in the EDRMSs of the organisations was obtained from interviews with the organisations' records managers. The findings reveal that there is a partial match between the ISB of EDRMS users and how the organisations have implemented the standard to manage records in the EDRMSs.

Users rely heavily on using the metadata elements included in the EDRMSs. They are mostly happy with their ability to find records in the EDRMSs, but they struggle with some difficult searches. Difficult searches could be completed more efficiently if users were able to drill down using a classification schema or thesaurus but records managers do not make these tools available to the users.

Introduction

Records management (RM) professionals implement their RM programmes by benchmarking in order to adhere to the RM principles and practices that are stated in the international standard, ISO 15489 Information and Documentation – Records Management (International Organization for Standardization 2002).

Is this standard, designed to assist RM professionals in implementing RM programmes for their organisations, also consistent with the information seeking behaviour (ISB) of Electronic Document and Records Management Systems (EDRMS) users?

We consider it important to understand how and if the RM practices used by the RM profession to manage records adhering to the standard actually match the ISB of EDRMS users.

Or, are RM professionals imposing on users a system that enables the professionals to do RM tasks, but prevents users from having a system they can register their work into and search and retrieve information from



in order to perform their job functions and tasks? These questions provided the motivation for our research.

The primary research question in our study is: Are the ways in which records are managed in the EDRMS are consistent with the ISB patterns of users. To assist with answering this primary research question we developed three secondary questions:

1. How are records managed in the EDRMS?
2. What is the information seeking behaviour of EDRMS users?
3. How do training, individual information seeking styles (IISS), task, and time available to conduct a search affect the information seeking behaviour of EDRMS users?

We approached the research by firstly investigating what the ISB pattern of EDRMS users is. Then, we looked at how information is managed in the EDRMS. The usage of RM principles and best practices to manage records in the EDRMS was assumed.

Four Australian government organisations that have implemented RM principles and practices in their organisations were studied. We investigated the ISB of EDRMS users to find out the information seeking activities they engage in when they need to find information in the EDRMS.

We present our findings on how the organisations have implemented each of the pillar RM principles and practices in the ISO standard in their organisation. In addition, we discuss the ISB pattern of EDRMS users that emerged. Furthermore, we address the primary research question in our study: are the ways RM professionals manage records in adherence with the ISO 15489 standard consistent with the ISB of EDRMS users?

Definitions of ISB and EDRMS are best addressed before moving further into the body of the article. Information seeking in this research focuses on the user who is actively involved in the information seeking process. ISB encompasses both information searching and information retrieval.

For the purposes of this article, the EDRMS is defined as an

automated document and records management system that enables organisations to manage both their paper and electronic records.

The EDRMS integrates with common office word processing, scanning, and e-mail management applications. It is an electronic tool that enables organisations to register, capture, use, search, retrieve, modify, maintain, dispose, and archive its corporate and business records.

It is similar to how Johnston and Bowen (2005) cite the National Archives of Australia's (NAA) description of the electronic document and records management systems (EDRMS): 'The EDRMS includes the whole of documents, records, methods, procedures, tools, [meta] data [index EDRMS], knowledge, means and persons with which an organisation operates and fulfils its requirements to preserve evidence of its activities, maintain its memory, and preserve its knowledge.' (Johnston & Bowen 2005, 133).

Organisations implementing an EDRMS as part of their RM programme ensure that the EDRMS is implemented in compliance with the ISO 15489 standard. The ISO 15489 standard outlines RM principles and provides guidelines to RM professionals on what constitutes good RM practices.

It sketches the requisite tools and programs for implementing RM best practices, such as policies, procedures, classification schemes, retention schedules, training programs, etc.

It also describes how organisations need to maintain the RM program once it has been implemented, by monitoring and conducting audits on use of the RM program, which is increasingly automated using the Electronic Document and Records Management Systems. For specifications on functional requirements for the management of electronic records in an EDRMS, organisations can refer to the European Model Requirements for the Management of Electronic Records (MoReq) (Cornwell Management Consultants plc, 2001) as well.

Background and Literature Review

The RM literature emphasises such issues as how information should be managed, organised, classified, and implemented, and how long it should be retained. RM theory (Kennedy & Schauder 1998) and best practice standards (International Organisation for Standardisation 2002) provide guidelines for how organisations should manage their corporate memory and information assets.

In order to address our research questions, we first needed to find out how information is managed in an EDRMS. We reviewed ISO 15489 and identified the eight pillar records management principles presented in Table 1.

What is largely missing from the RM literature is a discussion of EDRMS users, their preferences and their behaviours as they search for information or documents in the EDRMS.

One issue that has received recent attention is the influence of task complexity on ISB. Byström and Järvelin (2002; 1994) found that the more complex a task, the more workers will explore information sources outside their comfort zones to fulfill their information needs.

Some clues to how EDRMS users might behave can be gleaned from early work about information seeking at work. The most widely celebrated study was conducted in the 1960's by Allen (1984) who examined how research scientists searched for information.

Although his study pre-dates modern information systems, Allen's observation that people tend to minimise the effort they expend to search for work-related information has influenced our understanding of how people search for information using electronic information resources such as online databases (Culnan 1984; 1985) or the Internet (Klobas 1995), and what brings them to use information systems (Davis 1989; Karahanna & Straub 1999).

Culnan (1984; 1985) noted the importance of users' perceptions

Table 1. Pillar Records Management principles

Policies	Records Management policies are written to outline that the EDRMS is the corporate information repository. Policies also outline roles and responsibilities for RM.
Procedures	Records Management procedures and standards identify what is a record, what information is to be created and captured into the EDRMS, and how information should be stored and managed in the EDRMS.
Metadata Standards	Recordkeeping metadata standards provide the contextual framework for records. Metadata, simply put, is data about data. Examples of record metadata properties include author, record title, date of creation, classification scheme terms, et cetera. Metadata standards specify the metadata elements that need to be captured for records stored in the EDRMS. It also states what the mandatory and optional fields in the EDRMS are and provides a pick list in some fields to restrict metadata to be captured.
Classification Scheme	Records are managed using a corporate classification scheme. The classification scheme enables information stored in the EDRMS to be classified by business process or subject.
Retention And Disposition Schedule	A corporate retention and disposition schedule is implemented in the EDRMS to sentence records stored in the EDRMS.
Security Permissions	Security permissions are set on records to ensure access to authorised personnel and to protect records.
Training	Training is provided to users on records management practices as well as on how to use the EDRMS. RM training includes records awareness-raising training and information on how the corporate classification scheme works.
Monitoring And Auditing	Monitoring and auditing of the record management practices and systems is performed to ensure that the RM strategies established are followed and that they meet the business requirements of the organisation.

of how easily accessible information stored in electronic information resources is to them, not only in terms of the functional ease of use of the EDRMS, but also in terms of the intellectual accessibility or "understandability" of the way content is presented in the EDRMS.

Most of the research on the use of electronic sources of information to support work has confirmed that users seek a balance between the perceived usefulness or quality of the information they are hoping to find and the perceived accessibility of the system and the information it contains (Auster & Choo 1993; Klobas 1995).

While this research provides some indication of the factors that may influence office workers' behaviour as they search for the documents and information they need to support their work, it tells us little about what they actually do.

Information scientists have developed generic models of ISB from observing people at work in other environments. Of particular relevance to our work is the modelling conducted by Ellis (1989) and its further development by Meho and Tibbo (2003).

Ellis was interested in designing an electronic information retrieval system for library information sources. Working with social scientists at his university, he identified six common activities in a search for the documents that might be indexed in a library system, as presented in Table 2.

Table 2. Six common information seeking activities by social scientists (Ellis 1989)

Activity	Description
Starting	Identifying a key source to commence a search.
Browsing	Identifying relevant sources.
Differentiating	Using differences in the nature of the source materials to filter material.
Chaining	Following up references provided in an identified source
Monitoring	Maintaining awareness of developments in an area through regularly following particular sources.
Extracting	Working through material in relevant sources.

Meho and Tibbo (2003) updated Ellis's model in an international study. They confirmed the basic activities in Ellis's model, but added four new activities: accessing, networking, verifying and information managing. They organised the full set of activities into four groups: searching, processing, accessing and ending. The activities in each group are summarised in Table 3.

Table 3. Revised ISB model (Meho & Tibbo 2003)

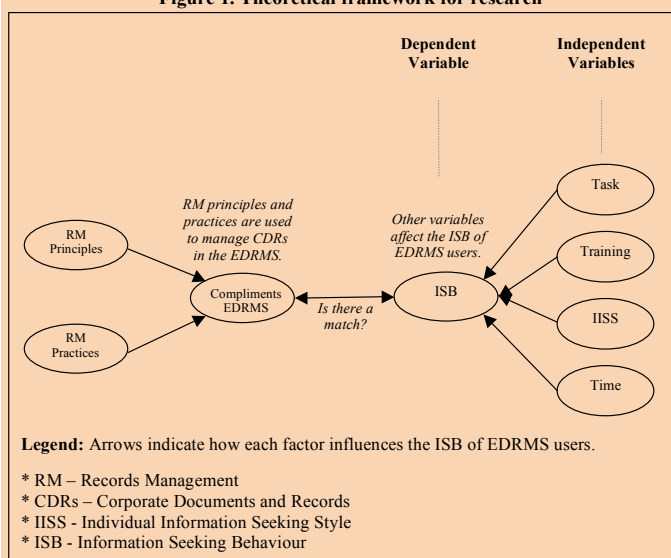
Groupings of Information Seeking Activities	Specific Information Seeking Activities
Searching	starting, chaining, browsing, monitoring, differentiating, extracting, networking
Processing	Chaining, extracting, differentiating, verifying, information managing, synthesizing, analyzing, writing
Accessing	Decision making
Ending	

In this study, we used these models and the techniques that Ellis developed in his research, as scaffolds for developing an understanding of the ISB of EDRMS users.

We were also interested in the effect of other aspects of the context in which searches are conducted. In particular, we expected training, individuals' preferences (their individual information seeking style, IISS), the task and the time available to influence users' search behaviour.

Figure 1 illustrates the theoretical framework for the research and the expected relationship between these variables and ISB.


Figure 1. Theoretical framework for research



Research Method

We used a combination of qualitative research methodologies and different research tools to gather data to answer our research questions.

Our research method was to find out sequentially the answers to these questions: 1) What is the ISB of EDRMS users? 2) What are the key factors that affect the ISB of EDRMS users? 3) How are RM principles and practices applied to the management of information in the EDRMS? and 4) Is the management of information in the EDRMS that adheres to RM best practices consistent with the ISB of EDRMS users?

In the next article in this series, we will describe the research method used and make a start presenting our research findings. 

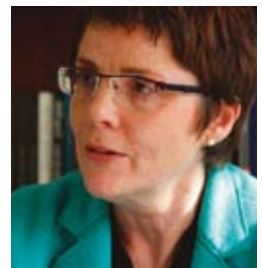
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She has published widely in information management and related fields. She is co-author of Wikis: Tools for Information Work and Collaboration (Chandos, Oxford) and Becoming Virtual: Knowledge Management and Transformation of the Virtual Organization (Physica, Heidelberg). jane.klobas@uwa.edu.au

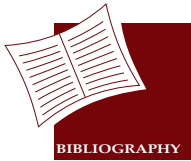
Karen Anderson, PhD is a Senior Lecturer in the School of Computer and Information Science at Edith Cowan University, WA, where she developed the Archives and Records program in 1994. She accepted an invitation to work in the Archives and Information Science program at Mid Sweden University as Guest Researcher for the year in 2006. Her research interests include approaches



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This article first appeared in *Human IT Journal* and appears in *IQ* with permission.



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