

The implementation of electronic recordkeeping systems

An exploratory study of socio-technical issues

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Received 28 April 2016
Revised 30 July 2016
Accepted 26 August 2016

Abstract

Purpose – This study aims to present the findings of the first phase of a project entitled *Putting the “Fun” Back in “Functional”*, which has been investigating the socio-technical issues surrounding users’ interaction with electronic recordkeeping systems. The ultimate goal of the project is to improve that interaction by positively influencing the way in which individuals perceive their work practices and the tools they use to accomplish them. In its first phase, the project considered the implementation of such systems for the purpose of gaining a better understanding of the factors and processes that contribute to its success.

Design/methodology/approach – Semi-structured interviews were conducted with 17 public employees from a large provincial government and a large city government in Canada about two information systems (ISs) – a meeting management system and an Electronic Documents and Records Management System.

Findings – Several salient themes emerged from the research data, including the value accorded to information and records, the implementation of electronic recordkeeping systems as a complex process, the appropriation of electronic recordkeeping systems, understanding users, ease of use and information/records specialists as part of the solution. Analysis of these themes shows that many of them can be explained through theories developed in the IS field.

Research limitations/implications – The results show that many themes are common across the records management and IS fields. Further, the results indicate the applicability of theories in the IS field to explain and predict the implementation of electronic recordkeeping systems.

Originality/value – This study is one of few that explicitly draw on IS theories to understand the implementation of electronic recordkeeping systems. The results of this study open up many opportunities for future research on electronic recordkeeping systems.

Keywords Information systems, Implementation, Electronic recordkeeping systems

Paper type Research paper

Introduction

An electronic recordkeeping system (ERKS) is “an electronic information system (IS) that meets an agency’s recordkeeping needs” ([USA National Archives and Records](#)

The author gratefully acknowledges the financial support from the InterPARES Trust Project in undertaking the *Putting the “Fun” Back in “Functional”* project. The author greatly appreciates Fiorella Foscarini, Gillian Oliver, Jim Suderman and Lisa Daulby who have been supervising this project and provided invaluable help in revising an earlier version of this paper. The author would like to thank Rachel de Brouwer, Katie Ferrante, Paige Hohmann and Jennifer Vanderfluit who worked as research assistants for this project and helped with literature review, transcription and data analysis. The author would also like to thank the 17 research participants, without whose participation it would be impossible to gain this insight about the implementation of electronic recordkeeping systems. The author is also grateful for the valuable comments from an anonymous reviewer on an earlier version of this manuscript.



Administration, 2000, n.p.). A series of functional requirements, standards and specifications have been developed by records management and archival practitioners and scholars to assist in the design and development of ERKS, for example, DoD 5015.2-STD, MoReq (Model Requirements for Electronic Records and Document Management) and ISO 16175 Principles and Functional Requirements for Records in Electronic Office Environments. Research on ERKS has been underway for more than two decades, during which time there has been a shift in research focus from the functional requirements of these systems to their implementation. The success of ERKS in managing digital records depends on both the validity of the theoretical concepts underlying their design and their successful implementation.

To explore socio-technical issues relating to the implementation and use of ERKS, the author undertook a research project entitled *Putting the “Fun” Back in “Functional”* (hereafter the “fun in functional” project). This project is a part of the multi-national, interdisciplinary research project InterPARES Trust (ITrust 2013-2018). The objective of this research is to look at trust relationships from the perspective of the creators and internal users of organizational information/records and relevant systems/technologies. Its ultimate goal is to improve such relationships by positively influencing the way in which individuals perceive their work practices and the tools they use to accomplish them. The project is based on the assumption that the social interactions involved in using available technologies shape and are shaped by the technologies used. In its initial phase (completed in the fall of 2015), the project explored some of the socio-technical factors that appear to affect the management of information in organizations. This article offers an overview of the main findings of this first phase. The research question that has been guiding the first phase is as follows:

RQ1. How do users interact with ERKS in the different stages of adoption (initial introduction, adjustment to the system, continued use, etc.)?

The paper is organized as follows: first, a review of literature on the implementation of ISs in general and ERKS in particular is presented; next, the methods used for data collection and data analysis are introduced; and then, the research findings are presented and discussed.

Literature review

The implementation of information technology (IT) systems is a well-studied topic in the ISs discipline. Numerous studies examining this topic from different perspectives have been published, giving rise to and/or contributing to the development of a number of theories. These studies can be loosely grouped into the following categories: factor-based, process-based, socio-cognitive and emotion-focused. However, most ERKS implementation studies in the records management literature do not refer to these theories, and are generally single case studies to share experiences and lessons learned related to the implementation of one specific ERKS. This selective literature review intends to give an overview of the progress made regarding the implementation of IT systems in general and ERKS in particular.

IT systems' implementation

Implementation of an IT system has been defined as “an organizational effort directed toward diffusing appropriate information technology within a user community” (Cooper and Zmud, 1990, p. 124). In the IS literature, analysis may be conducted at a single level (e.g. individual, group or organizational), which ultimately leads to “an unnatural, incomplete, and very disjointed view” of IS implementation (Burton-Jones and Gallivan, 2007, p. 657), and

renders the applicability of analysis conducted at one level to another level uncertain. For instance, the technology acceptance model (TAM) (Davis, 1989) aims mainly to illustrate the constructs and process that lead to individuals' use of IS. In contrast, the critical success factors (CSFs) research prevalent in the field of enterprise resource planning (ERP) system implementation tends to identify factors at the organizational level (e.g. *top management commitment and support, change management and project management*). Recognizing this limitation, researchers introduced multilevel perspectives to redress the situation (Lapointe and Rivard, 2005; Burton-Jones and Gallivan, 2007; Jensen *et al.*, 2009).

Factor-based research is the most common approach adopted to explore IT system implementation. As the name suggests, studies using this approach usually seek to identify a list of factors. First appearing in the 1960s, CSFs are defined as "the limited number of areas in which results, if they are satisfactory, will ensure competitive performance for the organisation" (Rockart, 1978, p. 12). It is, therefore, assumed that as long as sufficient attention is given to these areas, systems will achieve performance goals. Factors identified include *top management commitment and support, visioning and planning, building a business case, project championing, implementation strategy and timeframe, project management* and so on (Finney and Corbett, 2007). More recently, researchers have started compiling and categorizing these factors so that organizations can effectively use them. The perspectives used to categorize these factors include key stakeholders (Finney and Corbett, 2007), strategic versus tactical factors (Holland and Light, 1999) and ERP life cycle model (Nah *et al.*, 2001). Criticisms of the CSF approach include questioning whether CSFs have been empirically shown to be "critical" (Ram and Corkindale (2014)). Their analysis found that "only some CSFs" in the ERP literature have empirical support associated with some form of positive outcome, suggesting that more research is needed (Ram and Corkindale, 2014, p. 164).

Process-based research aims to describe the process by which different constructs interact and lead to the acceptance of IS or the success of IS implementation. Most of the outcomes of this research are presented in the form of a theoretical model, such as TAM (Davis, 1989) and its extensions TAM 2 (Venkatesh and Davis, 2000), the unified theory of acceptance and use of technology (Venkatesh *et al.*, 2003) and DeLone and McLean's (1992, 2003) model. Theories from other fields have also been drawn on to develop theoretical models or directly explain users' interaction with ISs; some examples include the theory of reasoned action (Fishbein and Ajzen, 1975), the theory of planned behavior (Ajzen, 1985) and the diffusion of innovation theory (Rogers, 1962).

Despite its strength in identifying and explaining the core constructs in determining individuals' acceptance of new ISs, one limitation of TAM (even with its subsequent extensions) is that it fails to explicate the process by which external variables influence individuals' beliefs and attitudes (Agarwal and Prasad, 1999). To complement this, studies have been conducted to identify external factors that influence individuals' perception, belief and attitudes related to IT (Igbaria *et al.*, 1995; Agarwal and Prasad, 1999; Hong *et al.*, 2001; Pituch and Lee, 2006).

The socio-cognitive approach represents an alternative perspective on the interaction between ISs and the organization. Unlike most studies that assume IT to be "an objective, external force that would have deterministic impacts on organizational properties such as structure" (Orlikowski, 1992, p. 398), the socio-cognitive perspective presumes that "organizational members' acceptance, deployment and actions toward information technologies are mediated by their shared interpretations of these technologies" (Gal and Berente, 2008, p. 133). One of the socio-cognitive frames of

reference widely used in the IS field to study IS implementation is the sensemaking theory. Sensemaking focuses on:

[...] the relationship between cognition and action in organizations, specifically addressing cognitive and social mechanisms for dealing with unexpected events – for example, the introduction of new technology (Jensen *et al.*, 2009, p. 345).

The central premise of the sensemaking theory is that users make sense of ISs by identifying specific cues of the IT (i.e. *bracketing*), then by relating the cues to a repertoire of frames and finally by responding to the “sense” just made by *enactment*. The repertoire of frames users draw on to make sense of the cues of the IT can be institutional logics or professional identity. The sensemaking theory explicates the underlying process of how individuals’ exposure to new IT leads to their behavior.

Another of the most influential social theories that have been drawn on in IS research is British sociologist Anthony Giddens’ structuration theory. Research using the structuration theory contends that although IT has an inherent social structure [e.g. the structural features and the spirit of this feature set as defined by DeSanctis and Poole (1994)] in its own right, the effects of this structure on the organization are mediated by the social practices of the organization (DeSanctis and Poole, 1994). It emphasizes the interaction between the structure within the technology and the organization, and how this interaction may change existing structures or yield new structures. Studies using this perspective mostly aim to examine the impact of IT on organizational change (e.g. organizational structure); yet, it can also be used to explain the implementation of IT at an organization.

Emotion-focused research focuses on the role of emotional factors in influencing users’ use, and continued use, of IT. The role of emotions in the implementation of IT has been largely understudied (Beaudry and Pinsonneault, 2010; Stein *et al.*, 2012). Two categories of research can be distinguished: one exploring emotions as antecedents of adoption and use of new IT, and the other investigating emotions in the adaptation behavior. In the first category, a number of studies have identified the relationships between certain types of emotions and different use behavior, for instance, users’ satisfaction with initial IS use and their intention to continue using (Bhattacharjee, 2001), anxiety during initial use and users’ perception of ease of use and, indirectly, continuance intentions (Venkatesh and Davis, 2000). Beaudry and Pinsonneault (2010) offer a systematic study of the direct and indirect relationship between different types of emotions and users’ use behavior, classifying emotion into four distinct types – challenge, achievement, loss and deterrence – based on the coping model of user adaptation (Beaudry and Pinsonneault, 2005) and appraisal theories of emotions (Lazarus and Folkman, 1984; Smith and Ellsworth, 1985). Expanding on Beaudry and Pinsonneault’s (2010) study and prior research, Stein *et al.* (2012) investigate *how* technology triggers different emotions, and further, how various emotions link to various use patterns.

In the second category of research, the Coping Model of User Adaptation developed by Beaudry and Pinsonneault (2005) identifies two types of coping efforts – problem-focused and emotion-focused. The latter refers to the efforts the users make to change their perception of the situation, rather than to alter the situation itself (e.g. regulating personal emotions and tension, restoring or maintaining a sense of stability and reducing emotional distress) (Beaudry and Pinsonneault, 2005).

In addition to the strands of research discussed above, other constructs identified that may have bearing on the implementation of IT include identity (Alvarez, 2008), technology-use mediation (Bansler and Havn, 2003) and user personality (Maier *et al.*, 2012). This brief review shows that the implementation of IT is a complex process that involves a number of constructs and has to be understood using different perspectives.

The implementation of ERKS

Most of the publications considering the implementation of ERKS are descriptive, relating the authors' experience in managing an ERKS implementation project and discussing a number of factors perceived as significant in influencing the success of the project. The factors frequently mentioned include training (Di Biagio and Ibricu, 2008; Gregory, 2005; Maguire, 2005; Johnston and Bowen, 2005; Gunnlaugsdottir, 2008), engaging "key users" or "power users" (Smyth, 2005; Di Biagio and Ibricu, 2008), user-friendliness of the technology (Maguire, 2005; Gunnlaugsdottir, 2009; Wiltzius *et al.*, 2014), communication (Smyth, 2005; Gregory, 2005; Di Biagio and Ibricu, 2008) and support by top management (Gunnlaugsdottir, 2008). Systematic empirical studies are scarce, and few studies have drawn on IS research and theory. One exception is Lewellen's doctoral research, which provides a bridge between IS theory and the records management practitioner literature. Lewellen (2015) formulated and tested a conceptual model drawing on TAM, organizational context and knowledge interpretation literature. He found that the three most important constructs influencing users' intention to use ERKS were: *the perceived value of records*, *effort expectancy* and *social influence*. Two earlier papers have used dimensions from DeLone and Mclean's model to measure success and investigated the independent variables that lead to different outcomes (Hsu *et al.*, 2008, 2009). In addition, an information culture framework has been introduced by Oliver and Foscarini (2014), aiming to promote sound recordkeeping from an information culture perspective.

Data collection and analysis methods

This research used a qualitative research design with the use of semi-structured interviews in two Canadian organizations. Seventeen semi-structured interviews with public sector employees from a large provincial government (Organization A, six interviews) and a large city government (Organization B, 11 interviews) were conducted. Participants were purposefully recruited through formal contacts with individuals working for the identified institutions. The study participants were not drawn from a single department or unit and had a variety of roles. To participate in this study, the selected participants needed to routinely use an ERKS in their daily work. Interviewees from Organization A used an Electronic Documents and Records Management System (EDRMS) (EDRMS is one specific type of ERKS. However, so that the audience can understand the context of the study's finding, the author decided to use EDRMS). Most people interviewed in this study had already been using the EDRMS to manage physical records for a couple of years and were in the process of introducing the electronic part. Interviewees from Organization B used a meeting management system, which staff can use to manage the meeting and a front public-facing website that people can use to access meeting information. Of the 17 interviewees, five are records management specialists and 12 are general staff. Records management specialists include records management clerk (one), records coordinator (three) and records analyst (one). All the records management specialists are exclusively from Organization A, therefore are interviewed about their understanding of the EDRMS. Almost all the general staff are general users of the meeting management system. Of the 17 interviewees, 16 are females and one is male.

Data were collected both onsite and by phone interview in each research site during normal business hours. Prior to the interview, participants were provided with an overview of the research project, including the intent, purpose and the nature of the investigation. An informed consent form had to be signed by each study participant prior to commencing the interview.

An interview guide was developed and revised beforehand based on issues identified in the literature review. Each interview was conducted for approximately 1 h. All interviews were audio recorded and transcribed. Data collected were anonymized, and each interviewee was assigned a unique identification number and securely stored. The data were reviewed and coded by the researchers with the assistance of NVivo, a qualitative data analysis software. The coding process starts with open coding on data collected from Organization A, using a combination of different coding methods including attribute coding, descriptive coding and theming the data (Saldaña, 2015), and the framework embedded in the interview guide. The generated codes were then reviewed and tested on data collected from Organization B by another research assistant. Once the validity of the codes was confirmed, a second round of coding was performed. The data were then analyzed for overarching patterns. All data were analyzed according to documented procedures to ensure coding consistency among researchers.

Findings and discussion

Analysis of interview data identified key themes which provide the framework for reporting and discussing findings. These themes are *the value accorded to information and records, the complexity of implementation, appropriation, ease of use, engaging users and the role of records specialists*.

Value accorded to information and records

The value accorded to information and records is regarded as one of the fundamental factors influencing and explaining people's attitudes toward records management and their behavior (Oliver and Foscarini, 2014). It constitutes:

[...] respect for recordkeeping, or the extent to which it is accepted by members of the organization that it is necessary to manage information for the purpose of accountability and to support ongoing business activities (Upward *et al.*, 2013, pp. 43-44).

Similarly, the main premise of the social-cognitive perspective regarding IT implementation is that organizational members' shared interpretations of these information technologies will mediate their acceptance, deployment and actions related to them (Gal and Berente, 2008).

Interviews conducted with records management specialists from Organization A show that not every records management specialist shares the same understanding of the value of records and record management work. Although Interviewee A1 acknowledged that records are "meant to document the business decisions and actions of your organization, so they allow you to show that [...] you've documented or discharged your duties and accountabilities", the other four interviewees gave varied reasons as to why records management must be done (e.g. historical value or legal compliance) or why they chose a records management job (e.g. a records management job fits with personal career preference). This variety in records management specialists' understanding of records and records management is challenging as it may give rise to different records management practices.

When these specialists were asked to comment on the understanding of records that staff with no records management expertise appeared to have at their organizations, most of them noted that not everyone recognized the importance of records, or, if they did understand the value of records, they did not want to do records management (Interviewees A2, A3, A5 and A6). Additionally, it was revealed that staff with different job responsibilities tended to have different reasons for their avoidance of records management, which could indicate that occupation might serve as a mediating factor between users' perception of records management work and their intention to do records management. For instance, management

people were said to regard records management as not part of their job and should be done “by somebody lower on the food chain”, whereas front line workers often are afraid “if they take the time to do the filing, that they won’t get their other work done and then they’ll look like slackers to their bosses” (Interviewee A6). This identification of the influence of occupation on individuals’ interpretation of ERMS echoes the meaning of the construct *identity* in the sensemaking theory. The basic premise is that individuals “attempt to relate their interpretations of the technology to the expectations they have of the their roles and responsibilities and thus their identity” (Jensen *et al.*, 2009, p. 346).

However, data collected at Organization B on the meeting management system uncovered a very different picture. When non-specialist staff were asked about their understanding of information/records management and the relationship between their work and records management, they mostly recognized that creating, managing, making publicly available and using information/records was an essential part of their job. As Interviewee B4 commented:

I would say [information management] is the actual job. [...] [I]f you make cars, then making cars is your job. But for me, I think it’s actually the information. It’s not a physical thing, it’s intangible.

This awareness of and respect for records and records management did not grow out of a vacuum. When discussing their information/records management work, staff at Organization B frequently highlighted how environmental factors influenced their information/records work (e.g. legal compliance and digital literacy of citizens). The high digital literacy of citizens and the widespread use of social media by citizens in interacting with meetings urged the staff to work assiduously to ensure the accuracy of the information/records to be made public, the privacy of data subjects and the right time to publish the information. A unique organizational information culture emphasizing openness, confidentiality, accuracy, responsiveness and quality of the processed information/records was nurtured in this process and was considered as the basic non-functional requirement for the meeting management system. This echoes the institutional perspective on IS implementation in aligning the expectations the organization may have – for instance, the assessment and endorsement of IT by suppliers, customers, consultants and professional associations (Jensen *et al.*, 2009).

Not only does this analysis confirm that value accorded to records (or the perception of records and records management) precedes users’ intention to do records management but it also shows the complexity underlying the discerned value accorded to records. Individuals’ perception of records and records management may be influenced by their identity, organizational culture and/or the organizational setting. Records management specialists should take this complexity into consideration when navigating the records management ecology at their organization, and use appropriate methodologies and tools to unravel this complexity.

The implementation of electronic recordkeeping systems is a complex process

Scholars often contend that the introduction of ERKS into an organization is about managing change – in other words, disrupting the stability, the routines and the state of “normal” that people were used to and establishing a new “normal” (Gunlaugsdottir, 2008). Similarly, Gregory (2005) asserts that embarking on a journey of implementation means “changing completely the way people work, think and act”; thus, ERKS is much more than an implementing software – it is also about cultural change (Gregory, 2005, p. 82). As a result, change management is often recommended to smoothen the implementation process. However, what is not clear are what kinds of change the introduction of ERKS bring about,

why these changes would hinder the implementation process and how these changes will evolve along with that process.

The interviewees in this study reported that users' initial reactions to the introduction of the new IS were mixed. Although some were receptive, a considerable number of people experienced a "neutral to negative" response to news of the new system's introduction. They were "nervous", "concerned" and "worried", and therefore initially resisted the new system. According to the interviewees, part of the reason why people had negative attitudes toward the introduction of the IS was because it represented *change*:

I think part of it was change, the main part, they were used to doing things their way. And, so they didn't like anybody to change what they knew they had to do, they just wanted to go ahead and do it and be left alone (Interviewee B1).

This anxiety about the introduced system becomes more intense if change is introduced into work that by nature is already very challenging and demanding (Interviewee B11). The committee meeting work which the meeting management system supports requires efficiency and accuracy, and is oftentimes live; this puts IT into a critical position, and if the technology could not deliver what it used to be able to because of a minor change made to the system, people would definitely resist such change. Drawing on the adaptive structuration theory (DeSanctis and Poole, 1994), Beaudry and Pinsonneault's (2005) theory and Stein *et al.*'s (2012) theory, I am able to explain that users' emotional response and their inertia toward adopting the new IT resulted from their initial judgments, namely, whether the IT was perceived as a threat or an opportunity, and whether they felt they had control over such challenges.

At present, records managers often recommend adequate preparation prior to deployment, in other words, communicating with staff and raising their awareness of the project (Smyth, 2005; Di Biagio and Ibricu, 2008; Gregory, 2005). Prior communication can certainly help prevent any misunderstanding and can therefore help avoid unnecessary anxiety and resistance. However, the introduction of new IT will no doubt induce some changes to the existing structures of the organization (e.g. political changes, social changes and structural changes). Therefore, appropriation of the technology by users is unavoidable.

Appropriation of the electronic recordkeeping systems

When individuals do not want to use the technology, or they have to go through a painstaking process to properly use the technology, "they abandon it, or work around it, or change it, or think about changing their ends" (Orlikowski, 2000, pp. 323-324). The appropriation users undertake can take various forms (DeSanctis and Poole, 1994, pp. 129-130), which were observed in users' interaction with both the meeting management system and the EDRMS studied in this paper.

In the case of the meeting management system, despite the many benefits it offers, it nevertheless requires substantial adaptation of the work process by users. Therefore, in the early stages of its implementation, great appropriation by the users was observed. For instance, instead of typing information directly into the system, users would first create a separate Word document outside of the system and then copy and paste the text into the system.

In the case of the EDRMS, users respond to disliked functionality by rejecting the system completely or establishing their own ways of coping with the difficulties encountered. For instance, classification requires "e-filing", after which the related metadata will be added automatically. However, records can be simply dragged and dropped, in which case the system will not add the metadata. Because of the easiness of "drag and drop", when the

system was first set up, some of the users would use this method to file their emails (Interviewee A2), which created great metadata holes.

Both appropriations are inconsistent with the spirit of the systems. Further, in the case of the EDRMS, a pilot test conducted showed that different departments might use it for different purposes, and therefore not use all functionality. As Interviewee A6 explained:

A couple of the groups used it like it's a, kind of like an encyclopaedia, so they've been slowly moving all of their historical records into the database and then they've been using it as a research tool to find information. Another group is using it quite actively to modify documents that they put in there so they will start a document within the [EDRMS] environment and then they will send the information from within [the EDRMS] to someone else to someone else who will go and will modify the records so they use it quite a lot like a SharePoint site. And then we have a third group who uses it strictly as a place to store records so they'll work on a file and they'll work on it through the computer system and then when they're all finished with it they just migrate all those records into [the EDRMS] and they use it as a records database.

Understanding users

Downing (2006) argues that for the successful implementation of an EDMS, 20 per cent of effort should be focused on the technology, whereas 80 per cent should be focused on the cultural issues, including the people and the business process. McLeod *et al.* (2010, p. 2) found that "people issues are predominant, fundamental and challenging as they concern culture, philosophical attitudes, awareness of RM and ERM issues, preferences, knowledge and skills". This study identified three characteristics relating to the users that may have some bearing on their acceptance of the IT, their digital literacy, personality and the consistency between their understanding of records management and the structures embedded in IT.

Previous research has argued that the widespread ownership and use of computers rendered the arguments about insecurity relating to working with IT invalid (Gunnlaugsdottir, 2009). However, the current study shows that digital literacy remains a relevant factor influencing the IT implementation, particularly for those from an older generation. From the interviewees in this study, the more digitally proficient users could start using the system without any training, those who were less tech-savvy often had a hard time trying to figure out how to use the system and to adjust to the new business routines. Interviewee B7 explained, "I thought 'well, if I make a mistake, someone is going to come and yell at me and I just deal with it and I [am] just going to be still and quiet'". In contrast, Interviewee B2 remarked, "I'm not scared, as soon as I learn, oh, you can't press one button and it will explode! You can't really crash the system".

Personality constitutes another aspect that can have an impact on people's adjustment to new IT. For instance, a trainer's forthrightness might be seen as condescension to the new learner, and make the learner feel intimidated (Interviewee B5). Further, some people may not feel comfortable with records managers intervening directly and telling them what is wrong with their use of the IS. Another factor mentioned frequently throughout the interviews, which may contribute to people's tendency toward doing things in the old ways, is their perception of how records and information management tasks should be done and their willingness to embrace change. When it comes to records management, for instance, some users cannot accept the fact that the records they created in the course of business activities are not their own, and that they are supposed to manage the records they created according to organizational policies. Another representation of the records management mindset from

the older generation is the management level staff expecting secretaries to do records management work for them:

They [who resisted the introduction of EDRMS] are from a generation from before computers, so they much prefer the more manual processes. And they much prefer the fact they had secretaries to do all of the filing work for them (Interviewee A6).

Conversely, the data in this study also show that those who are open-minded and ready to embrace change can more easily adjust to the introduced system:

With me, I look at change as inevitable. I think whether or not we like it, we just have to go with the flow. So with that in mind, I try to keep an open mind, even if I may not like the system, but that is what I'm given to work with so I have to work with it, so I try not to build up any sort of resentment or negative thoughts about it, I just go in and try to learn and do what I have to do (Interviewee B8).

Previous studies have investigated the role of the dispositional resistance personality trait in influencing individuals' belief update over time and transferring behavior intentions into adoption behavior. The dispositional resistance trait refers to "an inclination to resist any kind of changes and includes that individuals change their views, minds, and behaviors differently" (Maier *et al.*, 2012, p. 5).

Ease of use

Despite the significance of people issues in determining users' adoption of the ISs concerned in this study, the technology *per se* is not without problems. Previous studies have highlighted the user-friendliness of the technology as an important success factor in implementation (Maguire, 2005; Gunnlaugsdottir, 2009; Wiltzius *et al.*, 2014). From a records management perspective, Gunnlaugsdottir (2009) explains that the ERMS must be user-friendly with respect to word processing, classification of records, cataloging or registering of records, saving records, searching for and retrieving records and distribution of records.

For the EDRMS, the area where most of the issues seem to have arisen is the classification of records. Interviewees explained that the classification scheme is not comprehensive and up-to-date, and cannot, therefore, accommodate all the records created. As a result, some records may be declared without retention periods or simply remain in organization's shared drive and not be captured.

Engaging users in the development and implementation of the system

ERKS case studies have reported that the participation of users in the development and adaptation of the system will greatly boost their acceptance of the system (Gunnlaugsdottir, 2008). Some projects may not be able to engage all general users, but they usually will include "key users" (Di Biagio and Ibiricu, 2008) or "power users" (Smyth, 2005) in design and implementation.

Indeed, in contrast to the EDRMS, which is an off-the-shelf system, the meeting management system, which is a "homegrown" system and a system being constantly improved based on users' feedback and suggestions, seems more likely to win its audiences' hearts. A couple of interviewees expressed their pride in the system:

We've won awards for it. [...] I don't know if it's internal, they've got a City Manager's Award. But I think it was even outside, an award. [...] I think other cities have been trying to develop something like that. [...] but it's unbelievable, the power of it (Interviewee B2).

Additionally, a collaborative relationship is established between the general users and the development team, where suggestions, ideas or any changes are actively solicited. The

development team seriously considers each proposal and, if they reject it, will respond with reasons why:

[...] They're great. If you bring it up, they'll either say we're working on this, or you get feedback in an email saying no, it does not work, here's why it doesn't work. So you don't feel frustrated, or really think, oh, come on. It's not ignored or anything, no. It feels like you're working as a team, not just them and us (Interviewee B2).

In addition to adopting general users' advice for improving the system, the development team also does a good job of supporting general users:

So, after, apparently some people were experiencing a particular issue after the upgrades, and [IT people] went around and they told everyone that – clear your cache, it will be okay. It was that type of problem. But still, they took the time to let everybody know, so that was nice (Interviewee B2).

Because the general users are involved in the upgrade of the system, they are more likely to accept any new changes made to the system. As a result, a trust relationship is formed between the users and the development team:

[...] they have a test environment, so my team is often used as their guinea pigs – and be like, “ok we tried this thing, come test it and see if you can break it”. So they're really good about the testing so they don't spring anything on us – [they] built the whole parallel system so they can do all their development and testing and stuff on one carbon copy of the live system that we work on, so it's great so we don't get technological changes sprung on us in the middle of a meeting (Interviewee B6).

This phenomenon of the positive influence users' participation in development activities has on their acceptance of IT could be explained by the construct of psychological ownership of information technology (POIT) proposed by [Barki et al. \(2008, p. 270\)](#). Another theory that is more comprehensive and that, to a certain extent, contradicts the concept of POIT is the theoretical framework developed by [Markus and Mao \(2004\)](#). Recognizing that the traditional explanations (i.e. psychological experience of buy-in, improving system quality and emergent relationships between system developers and users) for users' participation only provide “partial and conflicting explanations” for participation's effects on system success, [Markus and Mao \(2004, p. 538\)](#) maintained that it was necessary to update the elements in these theories by:

- separating the traditional outcome concept of “system success” into two concepts: system or solution development success and system or solution implementation success, with emergent reciprocal relations between them;
- distinguishing relevant actors (e.g. stakeholders, participants, and change agents);
- refining participation activities along the dimensions of richness, methods and conditions; and
- defining the causal process as emergent rather than necessary or sufficient.

Information/records specialists are part of the solution

The findings of this study confirm that records management specialists can facilitate the implementation of ERKS and serve as the interface between the IS and users' actual work. For instance, Interviewee A3, a records coordinator, described how she saw users as her clients and herself as a waitress, how she “delivered” personalized “service” based on the personality of the “clients”, helped them understand the importance of their records and illustrated the system by mapping the IS to the clients' own work using their records. She also highlighted that it was unrealistic and risky to use rules to “force” general staff to do records management or use the system:

I found that [...] you can't afford to be a person that says "ok here are the rules, this is what we have to do and that's just it". You've lost everyone when you present it that way. You have to personalize it, and you have to get to know the people (Interviewee A3).

The role of information/records specialists in the implementation of IT can be explained by the theory of technology-use mediation, in particular, the influence mediators can exert on how a particular technology will be established and used in an organization (Bansler and Havn, 2003). Technology-use mediation involves influencing other users' "interpretations and interactions, by changing the institutional context of use, and by modifying the technology itself" (Bansler and Havn, 2003, p. 136). Mediators usually act as the boundary spanners between the users and developers of technology, and "employ a broad repertoire of different practices, some of which aim at modifying the technology, while others aim at transforming the organizational environment (e.g. people's opinions and beliefs, working procedures, and communication norms)" (Bansler and Havn, 2003, p. 141).

Conclusion

This paper discusses the salient themes emerging from the first phase of the "fun in functional" project, which investigates the social-technical issues surrounding the interaction between the creators and internal users of organizational information/records and relevant systems/technologies. This project finds understanding value accorded to information and records by users, understanding users themselves, engaging users in the development and implementation of the system, understanding that information/records specialist are part of the solution and that the implementation of electronic recordkeeping systems is a complex process involving users' appropriation of the electronic recordkeeping systems can facilitate the successful implementation of electronic recordkeeping systems. The analysis of these themes indicates the applicability of theories from the IS discipline in explaining and predicting the implementation of ERKS. Compared with the rather mature development of theories in IS, management of records requires more systematic, accumulative and empirical research to understand the factors and processes that contribute to ERKS' success. Though the theories in IS can serve as a valuable reference framework in investigating issues concerning ERKS, the uniqueness and specialist nature of electronic recordkeeping requires independent studies be conducted to contextualize and take into account records management aims and purposes.

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