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International Research on Permanent Authentic Records in Electronic Systems

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Executive Summary

The data derived from the interviews with archivists/records managers, record creators, IT and senior management in Canadian small and medium sized organizations supports the hypotheses developed for this general study, which are as follows:

- Hypothesis 1: Corporate and/or occupational subcultures may lead to tensions and conflicts amongst stakeholders and are a significant barrier towards the successful implementation of recordkeeping systems.
- Hypothesis 2: An organizational culture that values the sharing of knowledge with multiple stakeholders in an organization, accords priority in recordkeeping and has a supportive management is more likely to develop a sustainable records infrastructure.
- Hypothesis 3: The varying levels of support amongst stakeholders from an organization are an impediment to the successful completion of research and product implementation in InterPARES 3 Project.
- Hypothesis 4: There could be both converging and diverging views in defining the concept of a record as well as in recordkeeping issues amongst various subcultures and within the same subculture from both within and across industries. There may be subcultures which identify more strongly with the prevailing institutional culture, while others may associate with their professional subcultures in the form of professional organizations and networks outside the formal organization structure.
- Hypothesis 5: Different groups of stakeholders have differing understandings and expectations of their roles and responsibilities in recordkeeping as well as the roles and responsibilities of other stakeholders in recordkeeping. These differing levels of expectations are potential sources of tension and barriers for the successful implementation of a recordkeeping system. The implementation of a recordkeeping system in itself can bring about a change in the organization which can be a source of tension.

Due to the richness of the interview data gathered for Hypothesis 5, Hypothesis 5 is split into two sub-hypotheses:

- Hypothesis 5a: Different groups of stakeholders have differing understandings and expectations of their roles and responsibilities in recordkeeping as well as the roles and responsibilities of other stakeholders in recordkeeping. These differing levels of

expectations are potential sources of tension and barriers for the successful implementation of a recordkeeping system.

- Hypothesis 5b: The implementation of a recordkeeping system in itself can bring about a change in the organization which can be a source of tension.

The five hypotheses developed for this general study were based on a review of the archives and records management, organizational theory and information management literature. It was also based on comments and feedback obtained from InterPARES 3 participants during the plenary meetings. As such, the research for this general study is both deductive and inductive in nature.

Throughout this document, the interviewees are referred by an alphabetical code to protect their anonymity. Although the pronoun “she” or “her” is used, this does not in any way reflect the gender of the interviewee. At times, the document deliberately leaves out the alphabetical letter to identify the interviewee, and instead refers to an ‘interviewee’ so as to prevent correlation of the interviewees’ comments with the type of test-bed.

Objective

The objective of this document is to answer the hypotheses developed for this general study based on a deductive analysis of the InterPARES 3 reports from the various case studies and interviews conducted with various stakeholders. This deductive analysis is based on a total of 30 interview transcripts from 33 interviewees.¹ In addition, the document also highlights emerging themes, which are derived from the interviews. These themes are discussed under the section “Analysis of Interviews” and are underlined.

Methodology

The team largely employed grounded theory to guide its research work. The interviewees for this general study came from TEAM Canada’s test-bed sites; these sites include municipal public archives, university archives, private thematic archives, institutional repository and municipal public archives. To ensure greater representation of worldviews, and as a precautionary measure to protect the identity of interviewees from the InterPARES test-bed sites, interviews were also conducted with organizations who did not participate in the InterPARES 3 Project. These organizations include municipal public agencies and private organizations. The interviews were based on a set of guiding questions developed for each hypothesis. The transcripts were first confirmed by the respective interviewees before they were imported into the NVivo software and coded according to the hypothesis and emerging themes. The interview transcripts were analyzed in the following manner:

¹ There are a total of 33 interviewees who participated in this research. Since some of the interviewees requested to be interviewed together with their colleagues; a total of 30 interview transcripts were analyzed.

- 1) The responses of each interviewee were examined in relation to the hypotheses developed for this general case study;
- 2) The responses of each interviewee were coded and analyzed in relation to emerging categories or themes;
- 3) The interview transcripts were analyzed at an individual level and then also examined at a collective level, such as the type of test-bed site and whether the interviewee was a records manager, archivist, record creator, IT manager or someone in a managerial position;
- 4) The supporting documentary sources from the case studies (e.g., final reports, answers to research questions and contextual analysis, proceedings from plenary workshops) were analyzed. These documentary sources served as a means to triangulate the data from the interview transcripts.

Analysis of Interviews

In general, the data sources derived from the interviews and reports from the case studies of the InterPARES 3 Project support the five hypotheses developed for this study.

Hypothesis 1: Corporate and/or occupational subcultures may lead to tensions and conflicts amongst stakeholders and are a significant barrier towards the successful implementation of recordkeeping systems.

Our research team anticipated the existence of subcultures that may derail recordkeeping initiatives. However, the majority of our interviewees did not provide specific examples of tensions and conflicts. One possible reason is the reticence of interviewees to discuss internal organizational conflicts, particularly to an external party. Another reason is that some of our research sites are currently in the preliminary stages of developing digital recordkeeping policies and procedures and, as our research was not longitudinal in nature, conflicts and tensions would not have manifested in visible forms. Nevertheless, underlying tensions do exist. Our research indicates that an organization comprises multiple groups, each with its own distinct cultures and values. As such, tensions and conflicts will inadvertently arise during the course of implementing a recordkeeping system.

The role-based culture in government, which is hierarchically structured and operates on roles and procedures, is more receptive in complying with records management policies and procedures as compared to the person culture in academic institutions, which values independence and freedom.

It is possible to develop a typology of organizational culture such as the power, role, task and person culture as developed by Handy (1976, pp. 177-185) and to understand how the organization operates in relation to records management (Shepherd and Yeo, 2002, pp. 44-46).²

The interviews generally conform with the literature, which states the existence of records management policies and procedures in role-based cultures. Generally, the role-based culture in government has a greater level of compliance in recordkeeping as compared to the person culture in academic institutions.

Interviewee W highlights the existence of policies and procedures in records management operating within a role-based culture. She states:

There is a policy in place that actually structures that or formalizes that relationship. There's both a by-law and a policy in place that does that. And there's a role played by the business unit, by the department head rather, so that the largest business units in the city, called the Departmental Records Officer, the DRO, that has the responsibility amongst others, but the primary responsibility for signing off on the retention periods and on the disposition authorities or the disposition acts.

Similarly, Interviewee O observes that business units operating in role-based culture with a “command and control environment” tend to be more willing to comply and follow recordkeeping standards and requirements. As Interviewee O explains:

...the project manager was focused on implementing a program and they did so within about a six month period, they were 100% compliant. Now they're a fairly small group and they centralize a lot of the records management functions so they have individuals who are responsible for sending records to off-site storage and recalling them for a number of different business departments. So, in some ways, that made it easier for them to do it, but a lot of that, I think, had a lot to do with the 'command and control' environment.

In a predominately role-based culture, where there are hierarchical levels of seniority, records personnel, such as Interviewee X, who occupy a relatively junior position, may encounter resistance from staff who “only see the pay-grade in the working title or in the class designation.” However, Interviewee X was able to capitalise on the authority accorded to her by her supervisor and work her way within the role-based culture. One strategy that Interviewee X has adopted is to directly approach the supervisor of the specific business unit to counteract user resistance. As Interviewee X explains:

² A *power culture* is influenced by one or two dominant figures and tends to operate informally. A *role culture* is hierarchical in nature and has a clear demarcation of roles and responsibilities. A *role culture* operates on a system of policies and procedures. A *task culture* is formed for a specific purpose such as a project team and where there is a high degree of collaboration and cooperation. A *person culture* serves only the interests and purposes of the individuals within a group, such as a commune or social group. In such a culture, the needs of the individual are ranked higher than that of the organization. Handy notes that it is uncommon to find organizations that operate based on a person culture and that it is more common to find individuals who prefer working under such a culture but under a different organizational setting. Some typical examples include consultants in hospitals, architects in government and professors in universities (1976, pp. 183-185).

So, to implement change, I have to go to their branch head and their branch head is usually quite receptive to me and then the change gets implemented through them and it has to be very formal through stages and very gradual. So, it can be done, it just takes a lot more work-around but I would attribute it to sort of the amount of time the person spends in a position and their view of their own seniority and the hierarchy of where authority lies.

As compared to a role-based culture, a person culture in an academic environment tends to place greater emphasis on academic and individual freedoms. This has resulted in individuals not being able to distinguish between personal and corporate records.

As explained by Interviewee E,

So if you're an academic liaising with a colleague in another institution or even with a colleague within the institution, they could be having academic chit-chats that have absolutely nothing to do with the corporate records system, and because of that factor, it makes it really hard for people to see the mass of what they work in as corporate versus personal, so they treat all of it as a personal record, not realizing that probably ten or fifteen percent is a corporate record that might be needed as evidence in litigation, FOI, general business operation.

Interviewee M concurs with Interviewee E's viewpoint that employees in academic institutions tend to have a greater sense of latitude and freedom in their work. She notes that employees in her institution tend to keep a lot of their personal records, such as music from their i-Pods, which is intermingled with the corporate records on their hard drives. She adds that, in an academic environment, the needs of the institution are primarily driven by the faculty. Interviewee M observes:

...you can't dictate to some instructor how they should save their files really; they really do have the sense of academic freedom where they can, they'll do what they want to do. Policy isn't driven by IT, or even necessarily records; the culture here is really driven by faculty and what their needs are.

In the same vein, Interviewee G observes that a university is an environment where independence is valued and, as such, users do not necessarily abide by policies and rules regarding records management from a higher level of authority:

...A university is a kind of a flat, decentralized organization where departments do tend to work very independently and staff are very independent within those departments. So I think there's, you have to start there and realize there's only so much you can do. It's not a corporate setting in which someone at a very high level decides we're going to have a records management program and people will comply. I mean, even in that situation it's difficult to roll out records management and to get people to buy-in, it's even more people difficult when people don't feel compelled from a, from superiors or, you know, someone in a hierarchy, higher above, to actually follow, sort of an enterprise-wide records management program.

Interestingly, Interviewee Z offers a different perspective. She states that in her previous job as a professor in an academic institution, she was told that “as soon as you started your job,

you should have to save your exams for this amount of time.” The records that Interviewee Z was specifically told to keep for a certain period of time at the academic institution where she used to work were exam records in the event that “students came back and complained about their grade[s]” or as a basis for her to write a reference letter for students. However, this is not the case in the government agency for whom she is currently working, where “it seems to be much more up to the individual what they want to save or not. There are no rules yet, as I say, they’re coming about recordkeeping about what you should save and what you shouldn’t save.” Based on Interviewee Z’s interview, the academic institution where she used to work was primarily concerned with student academic records due to the need for frequent reference. She did not mention the need to ensure the proper maintenance of other corporate records in the academic institution, such as e-mails.

Besides the existence of an overarching culture at an institutional level, one should also be aware of the underlying subcultures at another level that can co-exist within an organization. As such, the existence of the four types of cultures—power, role, task and person cultures—are “not exclusive” (Shepherd and Yeo, 2002, p. 43).

The culture within an organization is not monolithic due to the presence of multiple subcultures. Organizations with strong and multiple subcultures encounter a higher level of conflict and user resistance in terms of complying with a records management policy and/or system.

There can also be a situation of multiple subcultures operating within the same department in an organization. As shared by Interviewee H:

It is a very diverse workforce in that department. When you think that in addition to the professionals, you have administrative staff who are doing the usual administrative work of human resources, finances. But a third main category would be trades people. You’ve got a large mix of blue and white collar and some of the blue collar are in supervisory and management positions because, for example, you’ve got the electrical shop, the mechanical shop, the carpentry shop, which would be overseen by a foreperson who probably came up through the ranks in that trade and is now in a management or supervisory position....So that’s quite a varied mix of individuals from the tradesperson right up to a professionally trained architect or engineer.

Interviewee G notes that multiple subcultures can co-exist within one business unit and this can sometimes result in a lack of communication and resistance in terms of complying with a records management policy and/or system. As Interviewee G states:

I also know that the (department) is an interesting animal because it does have three units within it, multiple professions, and there was definitely an issue of communication here, or a lack of communication.

Within professional subcultures, there are varying degrees of compliance in terms of records management. Some occupations, such as human resources, finance, planning and engineering,

tend to place greater emphasis on recordkeeping as compared to occupations that focus more on the arts and culture.

Professionals who require a high degree of specialised knowledge to perform their job functions generally understand recordkeeping in terms of how it supports their business activities and work processes. However, they do not want to spend too much time on recordkeeping, which they perceive as a low priority in their daily tasks. Interviewee D states that the professionals in her job are hired for their professional knowledge and expertise and that recordkeeping is deemed a secondary activity or responsibility:

I won't say that they believe it's just a clerical job and it doesn't demand, or it shouldn't demand a lot of their attention.

Within this professional group, however, there are varying degrees of compliance in terms of recordkeeping policies and practices. Occupations that traditionally have a base of administrative and support staff, such as finance and human resources, have what one interviewee states a “really good records custodianship.” Occupations that are more technically driven and that have a business need to keep a close tab on different versions of records tend to be more receptive in abiding by record management procedures. As explained by Interviewee U:

Any place that has a large number of construction projects, there will be some type of document management in there because they have to keep track of the versions of plans, so because they have so many plans coming through in versioning, they know how to do that. They also love project numbers. You can give an Engineer a forty digit project number and they will not bat an eye. So they're not put off by classification numbers like other people are. And actually I think Planning, I would say the same thing. Like they're so used of dealing with development variance numbers, they don't have that sort of kneejerk reaction to seeing the classification codes... And also, you know they do get, the City does get sued, and so they know that if they're sued because they, you know, on a survey, or something like that, they're going to need the records to go to court.

Interviewee T concurs with Interviewee U's perspective. She states that Engineering is a profession that values precision and that generally files are well maintained in the Engineering Department. In contrast, there are occupations that operate on a person culture and where individuals value “training and personal growth,” such as the arts and culture sector. The recordkeeping infrastructure in such cultures are cited by Interviewee T as experiencing a “few more breakdowns.”

The subcultures of professions that operate on a “para-military structure,” like the police, have specific rules and regulations governing key activities in their work. Although an interviewee mentioned that there is a certain degree of “latitude and independence to do what needs to be done” in her organization, the culture is still top-down as it is mainly driven by senior management. As described by the same interviewee R, “I'll consider the various viewpoints and then I'll make a decision which way it goes.” In such organizations, once a decision has been made by senior management for staff to abide by a policy, including records

management, staff need to follow the rules because “if they didn’t follow the policies that we say you’ve got to follow they couldn’t work there.” In fact, another interviewee admits that the best strategy to deal with professions that operate on a para-military structure and that focus on rules is to “find something that they haven’t formalized because then there is actually a blank area that you could provide.” Interviewee N offers another suggestion. She suggests that it might be more feasible to adopt a decentralized approach in recordkeeping for such professions since they “do not trust anyone else with their records” and because of the “legal restrictions on sharing criminal records.”

Municipal departments located nearer the central administrative area tend to adopt a more rigorous recordkeeping system as compared to municipalities that are located away from the central administrative area.

Besides the existence of cultures and subcultures, the location of the business unit within a municipality also influences the level of rigor in the development and implementation of a recordkeeping system. According to Interviewee K, agencies that are nearer to the central administration tend to manage their records better as compared to departments that are located further away from the central administration area. The latter departments are said to be “more focussed on taking care of the parks, or putting out the fire, or cleaning the streets” and the employees tend to be “further away from the Archives and Records Management’s day-to-day activities.” Interviewee U agrees with Interviewee K’s opinion. Interviewee U points out that agencies located further away from the central administrative area are fairly independent since “they’re not so closely tied in the corporate structure, so they’re usually seeing themselves as their own little facility.” Interviewee U perceives that such “satellite” agencies also tend not to have “high value records”. Consequently, the employees from such agencies do not consult their records frequently since they “don’t need [them] on a minute to minute basis like in the other business units.”

Interviewee S, who works in a “satellite” agency, proclaims that employees in her business unit are “good at laying concrete or putting a road in, or digging a ditch.” However, employees are not aware of recordkeeping issues. As Interviewee S elaborates,

If we had some sort of policies and procedures as to what you should file and for how long you need to keep it, I think would help us out an awful lot. Time sheets - how long do we need to keep time sheets legally? Information on our trip and falls, our claims, do we need to keep it here or does City Hall need to keep it? And if we need to keep it here, how long do we need to keep it? Who should keep it? Should it be the office staff or should it be the Concrete section where the incident occurred? You know, those types of things. We don’t know.

Interviewee S admits that recordkeeping procedures and practices could be further improved in her department. However, she laments that recordkeeping is not perceived by the employees as an important business activity. As Interviewee S reflects,

Recordkeeping isn't in the forefront of peoples' minds. It just isn't. I think we know it's important because we deal with paperwork all the time in the office, but out there they just want to get their concrete road done or whatever it is that they have to do, pick up the garbage or whatever.

Besides the role played by corporate and subcultures, some of the themes that have emerged from the interviews that result in barriers for the adoption of a recordkeeping and preservation system are:

- 1) Organizations tend to view IT more as an utilitarian tool rather than as a strategic asset and, as such, IT tends to focus on infrastructural issues rather than on records management.

One theme that has emerged from the interviews is the subculture of IT. Interviewee E comments that the occupational subculture of IT in her organization focuses mainly on completing the IT assignment and on rolling out the system rather than focussing on IT project planning and, as such, recordkeeping issues are not brought to the attention of the staff in charge of records management, until it is too late. She states:

I would call it a cultural issue that is a norm of behaving—if you're a worker in the IT shop—is that you're just given an automation assignment and you just sit down and you do it. And I even think that applications that are rolled out in many places...maybe don't get the broad level of input needed, so, you know, there's a really great catering system and it's designed between the programmers and the systems people and the catering shop, but if you talk to some end users it would probably be a better catering system. But I just see them as very dedicated doing-type people, who possibly aren't given sufficient time and resources to spend or, possibly, they don't see the value of liaising with a broader group of end users. So, there's some kind of a miss in the way systems are designed. On the other hand, when I work with the programmers...I see a really high level of analysis and depth of the programming. I'm thinking to myself 'the programmers are really good and they are working well with users,' but as far as the IT infrastructure and the IT planning...I mean I've never been interviewed by IT on their three year plan, and my impression is in other organizations, probably the records manager would be interviewed.

Since IT is perceived by senior management more in terms of an utilitarian tool rather than as a strategic resource, IT tend to focus their attention on keeping the infrastructure and the “mission critical” systems, such as e-mail and local area network drives, running. This leaves IT with very few resources and staff to deal with the issues relating to project work, which includes addressing issues related to recordkeeping and preservation.

- 2) Lack of user awareness on recordkeeping and preservation issues.

Interviewee A states that “nobody in the organization is familiar with the subject of records management.” Interviewee D admits that the concept of preservation is seen as a “total mystery” and that she and her colleagues are generally unaware of how long the records are retained and kept on site, stating that:

Oh, the preservation part is, is a total mystery to us... And the file, that file once it's complete, will stay here for a given, some undetermined amount of time, it could be up here for a year or three years depending on how crowded the file system is. And then when we start running out of room, somehow there's a purge and the stuff gets moved offsite. So, I think from [our] perspective, we're pretty ignorant of what happens to it after the file gets closed.

In terms of the management of records during their active stage, Interviewee I cites the lack of access controls in the digital environment at her organization, which has resulted in situations where records are inadvertently deleted and overwritten. As she states:

If you have access to the computer, you have access to the [shared drive]. So, there's a non-security, and you have far too many people accessing the computer who don't know enough about computers. So, that puts all your files at risk, and we've had to do backups before, where people had deleted files or folders.

There appears to be misguided faith that when an organization is new, it has more time to deal with digital preservation issues and, as such, the focus appears to be on creating records rather than on issues relating to long-term preservation. As Interviewee A notes:

Nobody is concerned about digital preservation, 'cause this is a new organization. They are not facing...they are not facing, like, severe challenges in terms of long-term preservation.

Similarly, Interviewee L perceives that the system in her organization is “fairly new,” “still developing” and that it “keeps evolving.” Although Interviewee L acknowledges the need to develop and implement a digital preservation strategy and procedure, the focus of her business unit appears to be on maintenance issues, such as the daily operations of the system and the possibility of migrating system software to a newer version.

3) Users' perception that recordkeeping is a time-consuming activity rather than a strategic resource to conduct their business activities.

Some users acknowledge the need for their organization to put their records in order because of the difficulties in accessing and finding records. However, some of these users cite the lack of time and the difficulties in handling their current workload as a barrier for the adoption of a recordkeeping system. As Interviewee I states:

We're cleaning up the folders and the files and realizing that we've got duplicates of all kinds of things, so we're taking the time to take one folder and clean it up and move on to the next one. So, we know we have to do it. It's finding the time to do that, which we don't always have.

Another interviewee states that requirements imposed by the records management department in managing e-mails take “so long”, are “very, very cumbersome” and are “more than is necessary.” However, underlying her reasons for this seemingly time-consuming activity

is her belief that e-mails are not corporate records, but are rather, essentially, a “service” and a means of “communication” in her business unit and, as such, are not a strategic resource that needs to be managed.

In worst case scenarios, there may be a need to appoint staff to do the actual filing and maintenance of records. Interviewee G envisages the role for an “electronic filing clerk” to help users to file the records because she does not see how a “senior manager is going to spend the time to organize their records.” In the case of Interviewee AA, she asserts that her time is more well-spent focussing on the professional aspects of her job, rather than on filing and organizing the records. As such, she identifies “diligent” and “self-directed” staff who are “interested in the recordkeeping process” to do the filing of records for her. Interviewee AA elaborates:

... I'm busy enough in my day so I just don't have time to say "File this document, file that document. Ensure it's in the right tab." And I don't have time to sort of undo the messes, so if somebody's misfiling everything and I have to take apart the file and put it back together on my own time, it's incredibly destructive to time and it's dangerous in terms of encouraging error because it does."

4) Lack of user buy-in for a records management policy and/or system impedes the level of compliance amongst users in adhering to the records management policy and/or in adopting the system.

Besides senior management support, it is also important to garner support from users. Interviewee G shares her experience of senior managers supporting a records management project with the verbal assurance that staff would be “behind it”, but when the records management project commenced, staff would inform the archivist that “he or she hadn’t heard anything about this project, didn’t know what it was about, wasn’t quite sure what their role was, wasn’t sure if they were interested in participating.” Interviewee G also cited instances where senior management has expressed concerns and frustrations about the inability of the department to locate relevant e-mails regarding financial transactions with external parties, but she viewed such concerns as “lip service to the importance of records management without any follow up and actually modifying peoples’ behaviours.”

This statement by Interviewee G shows that building awareness for change does not necessarily translate into a desire for change (Hiatt, 2006). The statement also illustrates the importance of sponsoring change at all levels of an organization to obtain the necessary buy-in and not just at the level of senior management on the importance of obtaining the necessary buy-in and commitment from users (Gunnlaugsdottir, 2008; Hiatt, 2006; Keil, Cule, Lyytinen and Schmidt, 1998). Hiatt (2006) highlights that employees need to explain the choices and consequences of why a change is needed and not just be told, as in the case of one organization where IT was simply instructed “you’ve got to involve records management.” In addition, staff need to be held accountable for their actions and there should be an incentive as well as a performance monitoring program to institute change within the organization. A governance and monitoring tool also needs to be established to ensure that the organization moves towards a shared vision in terms of actively building a recordkeeping compliant culture.

5) Blind faith in technology to manage and preserve records.

There is also a misplaced trust in technology in terms of enabling organizations to better manage their records. As Interviewee D states:

Yes, it's a technical issue, I think. Once you buy that system, some of the parameters are set out in terms of tasks and it's very...it has a pull down menu that has about ten different items that really no one at my level has any concern as to what those things mean. Perhaps we're using it, we're not using it properly or we could use it better, but it's such a big job and at our level we don't care as long as it does mostly what it's supposed to do.

In the same vein, Interviewee M stresses the importance of moving the organization into an electronic system so that the business units no longer have to keep paper. Interviewee M states that the main incentive to go digital is that, ultimately, keeping records in digital form is cheaper than maintaining paper in the long run since “storage space is fairly inexpensive so, we just got some more storage space.” In terms of the idea of limiting the storage capacity for e-mails, Interviewee M adopts the view of simply “delete when the year’s done.”

6) Users who encounter problems in terms of using and accessing records from an EDRMS system can lose confidence in the ability of the system and resort in maintaining their own personal recordkeeping system separate from that of the organizationally sanctioned system.

In addition, some users rely on the institutional memory of support staff to “find things” since the existing records infrastructure is too “cumbersome” and poses difficulties for business users in searching for records needed to support their business activities. As Interviewee D elaborates:

It's like any office dynamic; we always have our, like, go-to person...person we're more comfortable dealing with and who could find things for us... So, if that person's not there, we either don't do the job or, because you can't ask a new person to do that because they wouldn't have that experience. It would just put them... they just wouldn't know how to do it. So, yes, it makes the work load somewhat unbalanced for the people that have been here for a long time because more of it falls on them until the new people understand the system and what we're asking for.

Interviewee D’s feedback about the system being “cumbersome”, with its pull-down menu and options that users do not fully understand, illustrates the importance of both records managers and archivists in monitoring and observing how users use and interact with a recordkeeping system. Interviewee D also observed that, over time, the systems have “evolved on their own” but yet, there is no one controlling and reviewing the systems at a higher level. Interviewee D’s remarks coincide with the concept of “technology structuring,” which is defined as “users’ interpretations of their work, the organization, and technology, their access to organizational and technological resources and the normative rules that guide action in their social context” (Orlikowski, Yates, Okamura and Fujimoto, 1995, p. 425). The manner by which record creators interact and how they adapt or, in some cases, get around the original intent and design of the recordkeeping system will provide useful insight to archivists and records

managers on how best to address the concerns of records creators. For example, regular training and consultation sessions or a change in the layout and functionalities of the system can reduce the level of users' resistance and enhance operational efficiency. Consequently, archivists and records managers need to be involved not only during the initial design and conception stage of the recordkeeping system, they also need to monitor how the system is used by record creators as part of their business activities.

7) A restrained fiscal climate impedes the development of recordkeeping and preservation systems.

Interviewee F commented that despite the recognition by senior management of the value played by records management in the organization, such as drafting the history of the organization in its strategic plan document, the restrained fiscal climate led to downsizing of staff and resources in the organization. The archives and records management programme was perceived as an auxiliary and less essential service compared to other programmes and services. In other words, senior management felt that the archives and records management programme did not directly meet the needs of the organization's major stakeholders and customer base. As a result, senior management made the decision to reduce the allocation of resources and staff to the archives and records management division.

Interviewee L also highlighted that budget is limited and that the institution has to make a choice between a number of strategic goals and initiatives over the next few years. She said that ultimately, "somebody has to make the decision as to who gets what resources, depending on what's available."

In addition, Interviewee Z shared that fiscal constraints resulted in a dismantling of a data management group, thereby eliminating the budget allocated for the preservation of scientific data. As a result, the preservation efforts are devoted more towards maintenance issues, such as buying additional hard drives. According to Interviewee Z:

But there's no group anymore that's now saying "Okay, now, how should we archive? Maybe we should have a different system for accessing that data" or something like that. It's just that whatever they created we have now continued.

As such, there is a need for records managers and archivists to position records management programmes closer to the overall strategic directions of the organization so that such programmes will be ranked higher in the priority list. For example, if an organization places an emphasis on sustainable development, records professionals can market the implementation of a records management programme to fulfil the organization's sustainability initiatives.

Hypothesis 2: An organizational culture that values the sharing of knowledge with multiple stakeholders in an organization, accords priority in recordkeeping and has a supportive management is more likely to develop a sustainable records infrastructure.

Although interviewees perceive that the objective of a recordkeeping system is to access records, access to records by itself does not justify the development of a recordkeeping and preservation system. Interviewees stress the importance of obtaining senior and middle management commitment to champion the development and implementation of a records management system.

Our data sources did not show evidence that an organizational culture that values the sharing of knowledge amongst multiple stakeholders is more likely to develop a sustainable recordkeeping system. One possible reason is that interviewees tend to associate recordkeeping systems more with locating records and information to support specific business activities rather than in terms of sharing knowledge with multiple stakeholders within the organization. However, interviewees stress the importance of obtaining senior and middle management commitment to champion the development and implementation of a records management system.

Interviewees also expect senior management to allocate funding and resources for records management initiatives because “without resources, nothing’s really going to happen.” Interviewees cite examples of a particular senior manager or a group of senior managers who have either “championed records management and better recordkeeping” or who are more receptive of records management initiatives. These champions often “actively promote their personal vision” and “push the project over and around implementation hurdles” (Beath, 1991, p. 355). Interviewee K highlights a particular senior manager who was frustrated by the “silos of documentation and information” amongst various departments in the organization. This senior manager made “a pitch” for records management to her peers and, as a result, the development of a records management infrastructure became one of the organization’s strategic objectives. In addition, funding was allocated to the organization to kick-start the development of a records infrastructure. Interviewee DD also cites the case of a senior manager who made a case for records management because she wanted to be “able to press a button on a computer and have that report appear magically before [her] at any time of the day” without relying on staff. Eventually, the idea, mooted by the senior manager, evolved into the development of an electronic document records management system (EDRMS). As Interviewee DD reflects,

... The fact that we had the (senior manager), who had that visionary idea of “I should be able to access this through computer technology,” and had a forceful enough personality that he was able to push that agenda forward. Because it does take a certain amount of someone in a champion kind of a role, someone that has influence and is prepared to push it. We did have that. I don’t think we can claim any credit for that; I think that it’s just that it happened.

However, there is a risk that records management initiatives might lose support if there is a change in leadership or if the champion “gets hit by a bus on the way to work.” Interviewee G states that should her senior manager leave the organization, there is a possibility that the

manager may be replaced by someone else “who would have no interest in what we do.” Conversely, a situation may arise where the senior management team that “relished divisiveness” will be replaced by a new team that values the “culture of collaboration.” Interviewees E and F felt that there might be opportunities to pitch records management initiatives to their current senior management since it is “more cohesive.” These two interviewees commented that, under the new leadership, “it’s almost like starting a new organization” and that the “possibilities, once again, for doing new things is huge.” Interviewee V shares that, currently, her organization has a “total change in the senior management” and that none of the original group of senior managers who approved and funded the EDRMS are in the organization. She does not foresee that the project and the system will be halted, given that the organization has already invested considerable resources in the system. However, Interviewee V believes that the focus of the project might change. For example, there might be a transition from a “records-centred” into a “business-centred approach” in records management, which can potentially change the current user interface of the EDRMS. The comments from the interviewees conform with the literature on information systems failure, which suggest that even after top management support is secured, “the risk always exists that the project manager will lose that top management support for one reason or another ” (Cule; Schmidt; Lyytinen, and Keil, 2000, p. 66).

Besides monitoring the risk that support from senior management can be lost, the interviews showed that there might be changes in the priorities of management. It is thus advisable for records professionals to closely monitor changes in management’s priorities and to align the records management programme with the organization’s strategic directions. For example, one interviewee highlighted that senior management in her organization are “very pro-sustainability” and, as such, it is best to align the records management program with the organization’s sustainability plans. Likewise, Interviewee V explains that she perceives “records management hooking themselves to the Green City” and that it is important for records professionals to “tie [themselves] to a priority to get funding these days.”

Apart from securing senior management commitment and support in the organization’s records management initiatives, interviewees stressed that middle managers should play a more active role in advocating the use of a records management system within their own business unit. In the words of Interviewee X,

I mean, this may sound unfair to them but I have only experienced that the limit that they’re willing to go is to send out an e-mail or mention something in a meeting or allow me to come in and speak at a meeting. And they always kind of want me to do it, and I may have to tell them in very careful ways that your staff are not going to be as responsive, if at all, when it’s coming from me; they’ll get the information from me but they’re not going to view it as something that they need to do.

Interviewee X mentioned that she worked closely with a manager to develop a file plan who then instructs staff on “here’s how you’re filing things, code your work.” The manager was able to act as a role model and set an example for staff by developing a procedure on how to classify and file records. Interviewee O advises records professionals to adopt a multipronged

approach by engaging with stakeholders at different levels of the organization. Interviewee O will target specific stakeholder groups depending on the recordkeeping issue and her overall objectives. For instance, she will obtain the endorsement from senior management for e-mail management because it has a “huge impact enterprise-wise” and requires that the “messaging gets pushed down from the top.” If the recordkeeping issue has to do with employees not classifying their records, then Interviewee O will speak to employees at a “much lower level within the organization” to better understand their business needs and requirements.

The interviews illustrate that there is a need for mediators in an organization who can work with users in the design, development and implementation of a records management system. Mediators can also work with users on how to use the system effectively and provide feedback on how to improve the functionalities of the system, based on their interactions with users.

Unlike champions who are usually involved in the initial stages of implementing a system, mediators play an “ongoing role” and “intervene deliberately” with users in adopting and using the system (Orlikowski; Yates; Okamura, and Fujimoto, 1995, p. 425). For mediators to perform their role effectively, the organization needs to have a supportive management climate to provide “ongoing and organizationally sanctioned intervention” for users. Interviewee N explains that, technically, she occupied a relatively low “class designation” as a records professional in her organization. She perceives herself as a “paper wall” since “it would be very easy to say no to me.” Interviewee N, however, acknowledges that she has the “backing of some upper management” and she has been “vested with certain privileges.” Although she feels that her current designation does not lend weight to her being the records authority in her organization, she is able to work around the current hierarchical structure of her organization by enlisting support from the supervisors and department branch head. Interviewee N’s case shows that it is possible for records professionals to mediate between users and the recordkeeping system if their role is effectively recognized and endorsed by management.

Records professionals have traditionally provided “ongoing user support” through the provision of records management training. Training acts as a means to promote and reinforce the use of the electronic management system based on specific records management policies and procedures. The interviews indicate that records managers make a conscious effort to provide a suite of courses ranging from introductory and advanced courses on the EDRMS system, e-mail management and other specific topics. In addition, records professionals conduct customized individual training to specific groups of users and, if necessary, provide “constant hand holding” and “constant baby-sitting,” as they acknowledge that “people don’t retain some of the tricks that you can use to use the system and find documents and classify documents to make their life a little bit faster.” The interviews also indicate that it is far more effective to incorporate records management training as part of the orientation program for new staff because when staff are new, “they’re on probation, so they want to do well” and, with training, staff “don’t develop bad habits.” Having a systematic training program also helps to increase the level of acceptance of an electronic records management system. Records professionals acknowledge that they need to

have the right soft skills to not only promote records management to senior management such as giving a succinct presentation about the “gain that we’re going to get and the reporting on what we’ve accomplished.” At the same time, records professionals in small and medium sized organizations may not have sufficient staff and find themselves “working with a brand new clerk at the lowest possible level of the organization and hand-holding and training and sitting in that person’s cubical saying: “This is how the records management database works.”” In some instances, the records professionals have successfully marketed records management activities to business units within the organization including organizing contests and campaigns that they are seen by users as the “guru” on records management issues. Interviewee FF said that she invites the records professionals to speak on specific records related issues to her staff and that whenever she encounter difficulties such as in classifying records, the “easiest way is to phone up (the records professional).”

Beyond the provision of records management training, there is a role for records managers to act as “mediators between system developers (i.e., IT/IS experts or software providers, usually external to the organization), standards, and system users (i.e., the organization’s internal clients and records creators)” (Foscarini, 2010, p. 390). Since mediators need to “make sense of the technology in relation to the specific, local context,” it will be helpful for archivists to understand how record creators use and, in some cases, adapt the recordkeeping system (Bansler and Havn, 2006, p. 56). The interviews illustrate how users struggle with the functionalities of a recordkeeping system and how records professionals or other expert users can act as a bridge between both information technology (IT) professionals and users. Records professionals can also remind users about the implications of their actions, such as the proper capturing and registering of reliable and authentic records as well as issues relating to privacy and preservation. Interviewee D laments that the system used in her organization has a “pull down menu that has about ten different items that really no one at my level has any concern as to what those things mean.” Interviewee P expresses her frustration that she is unable to open, edit and save the document from the system directly but has “to take it out, put it on [her] desktop, work on it, save it on [her] desktop, put it back, and delete the old file.” Although Interviewee P appreciates having a recordkeeping system, she perceives its current functionality as “not entirely user-friendly and intuitive...crazy...really inefficient” and said that employees in her department are “just trying to cope with that we’ve got.” For records professionals to play a mediating role, they need to be sensitive to the business requirements of users and the nuances of the language used by both record creators and IT professionals. As Interviewee M notes,

Often times, the business thinks they know what they want and they say what they want and then IT delivers it exactly like that and it’s like, oh, that’s not what we wanted or I didn’t know you could do something else, like, oh, there was an easier way to do it? But IT just gave them what they asked for instead of having some sort of dialogue about what the real needs were and the method or way to implement it.

Besides playing the role of mediators, records professionals should cultivate supporters amongst their user group who can help to champion the cause of records management. These

supporters can encourage their colleagues who are ambivalent or resistant to try to use the system. Interviewees spoke of record creators who are “shining star examples” or who through “word of mouth” advocate the use of the electronic records management system. As Interviewee N explains,

I think the incentive is that the departments that have really taken to it are now talking to the departments that aren't using it and saying, 'Really, it's not that bad. Look.' And so it seems to be embraced a bit better when it's another department telling you, or another co-worker telling you that this is the way to do it, rather than someone from Records or from the IT Department.

Records professionals in small and medium sized organizations can also cultivate specific “power users” or “super users” who are identified to help user groups with specific problems in the use of the system. Since records professionals may not have adequate manpower, such alliances are helpful as these expert users can guide their colleagues to utilise the system effectively. As noted by Interviewee GG, people “tend to blame the system” when they are unable to access their records. In addition, these experienced users provide a valuable source of feedback for records managers on how best to incorporate recordkeeping functionalities in the system, without compromising ease of use.

There is a need for mediators to do more than establishing a system though formulating policies and procedures and to do more than just reinforcing the use of a system through training. Mediators need to intervene by mobilizing staff to assist record creators to set up and organise their recordkeeping system.

The literature highlights the importance of mediators being attuned to the feedback of users and, if necessary, to initiate adjustments, modifications and changes in the system (Okamura, Fujimoto, Orlikowski, Yates, 1994, p. 61). In other words, the mediators serve as intermediaries. However, the interviews indicate the need for mediators to play a more interventionist role, such as identifying and mobilizing staff to reorganize the existing records management infrastructure because the department lacks suitably trained staff for such a role, resistance from users is too high, or because the existing system is too chaotic. As noted by Bansler and Havn (2006, p. 63), the mediator “constantly finds herself in the middle of things, taking stock of events as they unfold, trying to understand what is happening while she simultaneously intervene in the situation, responding to perceived problems and opportunities.” In other words, the mediator does not have the luxury of “passive diagnos[is] or detached reflection” but has to pro-actively respond and take action to a given situation (Ibid).

This can be illustrated in the case cited by Interviewee U, who was given a limited timeframe to appraise a business unit’s inactive records. Interviewee U narrates her experience:

I always say that the day to work on records with a business unit is the day they call for help because that's the day they're ready and if they call us one day and they – we had a call one day from one of the (departments)... and they brought all of the boxes from their

whole facility into the rink and there were 120 and they had two weeks and they wanted to know what to do. And that, so, that was the day we went out there, we were out there that afternoon. And so, that's kind of just how we do it... We just try to build capacity and we just try to, anyone that comes to us, we try to give them a little bit that they're going to take a bit farther for us.

Similarly, Interviewee X was faced with a situation where she had to proactively assign staff to revamp a business unit's recordkeeping infrastructure. As Interviewee X states:

...there is a branch that has no one that has either a grasp on it or cares and their records are all over the place and probably the worst in [the department] and I've just assigned a Records Clerk to work with them exclusively to help them.

There is a need for a governance structure to formally endorse and support the work of mediators and to ensure the involvement of records management during the design, development and implementation stage of any recordkeeping system.

For mediators to provide a level of continuous support to users and to lessen user resistance towards a recordkeeping system, it is important that their role be “deliberate, on-going and organizationally sanctioned” (Okamura, Fujimoto, Orlikowski & Yates, 1995, p. 424). In other words, there must be a formal governance structure in place to recognize the role played by mediators in an organization. Despite the support and endorsement of senior management on the role played by mediators, mediators like Interviewee X recognize that there are limitations on what they can achieve on their own because they do not occupy a sufficiently senior position in the organization and hence cannot speak with authority and weight.

Interviewee X shares her perspective:

Like, I think my personality and who I am allows me to go further. I don't think my position normally would be able to or should be able to, should be doing what I am doing. I think that when I have to explain this to my staff a lot because there is a sort of high expectation of sort of a managerial level that comes to me and, I mean, technically I'm of the lowest brand of supervisor ... but see management I guess whether they like me or they trust my capabilities enough where they throw a lot at me and they expect, you know, that I would carry with me a lot of authority. I mean, I've been told by our division head that I'm the records authority for [the division] but it does not have a pay grade sufficient enough to justify that. And an authoritative position does not justify that as well and yet that's what they're expecting me to be and so I don't think so. I think that it would be—I'm a paper wall—it would be very easy to say no to me, I have the backing of some upper management so when push comes to shove, they would push back for me but on my own I wouldn't be able to stand on my own.

Interviewee S echoes Interviewee X's stance on the low status of records management and registries in her organization. Interviewee S cites cases of students working in the registries over the summer who were only given minimal training, which resulted in a chaotic situation where “things were just kind of thrown in there and not even in the right places.” Interviewee S highlights the importance of instituting a governance structure that recognizes that “you need

knowledge to work with the records” and that an organization cannot “just fill the position with somebody off the street with no experience.”

In addition, there must be a sustainable system to support the work of the mediators so that records management is not perceived as an ad-hoc activity. The governance structure and the vision and strategic direction of the organization have to place greater emphasis on recordkeeping and preservation. Interviewee E shared her experience that, despite senior management urging both IT and records management to work closely together, it has not materialised in practice and the IT department has not kept staff in charge of records management informed of IT’s plan to roll out a recordkeeping application. As such, organizational silos still exist because there is no governance structure for both IT and records management to work together. As Interviewee E states:

And I would even go on to say that I see things happening in IT that I would consider a records keeping application that IT rolls out... that I find out about after it’s rolled out. To me it’s an unfortunate situation because we just lost an opportunity. So an example is, a SharePoint application was rolled out eighteen months ago where it would have been an ideal opportunity to involve the end user and IT and the records management unit so we could have had classification of records and retention; and unfortunately it just didn’t happen.... We’ve discussed this issue with the two [senior management]... and they’re nodding their heads saying, ‘Yup. Ah huh, you’re right. Records management you need to be involved’.... and the Director of ITS has kind of walked me personally around different units in IT saying, ‘Guys you’ve got to involve records management.’ So, that’s what we’ve done. And I haven’t personally observed any change in the way IT works.

Interviewee E stresses the importance of “management commitment to vote the resources.” Her statement conforms to the existing research conducted by Keil, Cule, Lyytinen and Schmidt (2000) on identifying software project risks. The authors’ survey of software project managers across different countries and cultures indicate that “commitment rather than support is needed to indicate the strong, active role top management must play in the project from initiation through implementation” (Keil, Cule, Lyytinen and Schmidt, 1998, p. 78). Interviewee F concurs with Interviewee E’s stance of going beyond just obtaining management support but also in developing a governance framework that values records management. As Interviewee F states:

There’s an acknowledgement that we do have system requirements that are different from the norm. And to what extent they can accommodate those without compromising anything they feel is their world. So it’s all sort of a balancing act. The whole issue’s governance—like who’s really in charge; that has been somewhat problematic. And that governance structure is still loose, has not been affirmed. Been asking the question now for probably a year, still loose. So, it’s difficult to say, this is where we can lock in, and we’ve got the director’s attention, and that’s a good thing, but it doesn’t necessarily mean that this is going to be followed through. So, there is a lot of work at our end, kind of pushing at the gates, as it were, saying ‘you’ve got to pay attention.’ They don’t always feel that it is necessary to pay attention. That’s because they’re the attributors of what makes sense from a systems perspective and we’re clients.

One way for management to provide a sense of commitment to records management is by attending records management training with their staff and by supporting records management initiatives. Interviewee P suggests how this can be done:

But the changes that I would see, is that all new employees would be trained. Not just trained by their supervisor who then just goes, "Yeah it's important," or it's not, but actually would go to records management training with [staff], and learn that this is the responsibility that you have in creating data, this is how you file and store it, here's the hotline that you can call for help... but I might in the future be able to call the help desk function and say, "I'm trying to file this," "I'm having trouble," or, "Can you help me with this?" So it would be more permeated within the culture of the organization, and something that everyone learns as they come in, and something that everyone who is here now begins to learn, that it's a shared accountability and that we all have to learn how to manage this stuff.

Consequently, the existing governance structure needs to place strategic value and importance on records management and to formally acknowledge and sanction the work of mediators. Otherwise, records management staff will consistently encounter resistance towards cultivating a culture that values records management.

The interviews also reveal the lack of a governance structure specifying the roles and responsibilities of records management, the business owner(s) of the system and IT in the process of implementing a new technology. An interviewee revealed a certain degree of reluctance to involve records management in IT projects because she believed that the IT projects have not been properly defined and scoped and also because of the perception that recordkeeping requirements were deemed to be inflexible. As such, there is a tendency for people to say "oh, you know, let me just get it kind of in shape before we bring [records management] on board." Consequently, it would be useful if the existing records management policy explained the rationale around why records management has to be involved during the system design and conceptual stage of a recordkeeping system and the benefits from a business and risk management perspective.

There is a need to identify champions and expert users within the organization to promote the use of recordkeeping system amongst their peers.

The literature highlights the importance of identifying champions and experts users, who have the necessary social and political skills and clout to aggressively market and promote the use of a system to their peers (Beath, 1991; Orlikowski, Yates, Okamura & Fujimoto, 1995). However, there is a conceptual distinction between mediators and champions. Champions and expert users are involved in the initial implementation, promotion and use of a system, whereas mediators play a more long term and continuous role in terms of directly training and monitoring the usage of the system with user groups as well as having the authority to liaise with IT and system developers to bring about modifications and changes to the system (Orlikowski, Yates, Okamura & Fujimoto, 1995).

Orlikowski's (2000) research indicates that users' experience and behavioural patterns in the course of interacting with technology can change if there is an alteration in their level of awareness and, due to other shifts in the environment, such as observing how their colleagues use the technology. Interviewee T stresses the importance of identifying the champions, especially those whom their peers trust to promote the records management cause. She states:

You know, when you're working, you know there's always those people, that you know their word is good. And if they can do it, we can do it. Yeah, and so it would be really nice if we knew who they were and were able to bring them up so they were like the champions of the cause.

Interviewee T elaborates on how the champions in her organization encourage their peers to attend records management training and how this has boosted the attendance rate in records management courses. This contrasts to the situation in previous years where records management staff had to offer incentives for staff to attend training sessions, such as giving out prizes. As Interviewees T explains:

But now, there's, the interest is there, like they hear from others, "Oh yeah, we went to that course and it was really good and we did this and this and this." And so now, word of mouth. So, whenever a course gets put on, or something happens, you've got a waiting list. And so, I mean, that's awesome, because records, most people think that's really boring, pretty dry stuff and, but you know, people are recognizing it's important, it's worthwhile, we need to know this.

Similarly, Interviewee N cites the case of departments who actively promoted the system to their colleagues through "word of mouth." Interviewee N comments:

I think the incentive is that the departments that have really taken to it are now talking to the departments that aren't using it and saying, 'Really, it's not that bad. Look.' And so it seems to be embraced a bit better when it's another department telling you, or another co-worker telling you that this is the way to do it, rather than someone from Records or from the IT Department. But it's the [person] that works next door to you that says, 'Well, here's how you find this or here's how you do this.' They're embracing it a lot better that way. And it's word of mouth really.

Interviewee U also recognises the role played by champions who spread the good work about the role of records management amongst their peers. As Interviewee U points out:

...people that have the need, go fill it and do a really good job with them because word will spread and then they'll tell someone and that really works too, so you get referrals.

Besides promoting the use of the system, the champion is sometimes perceived as the "expert" who can provide a solution to difficulties encountered by users. As Interviewee Z observes:

... He's actually our expert, he's the one that created the archive. So all we do is call him, and say "oh, there's something wrong, it's not up to date." So he just, even when he's at

home, he logs into the home computer, fixes it and it's done. It's because of his great work that we have this great archive here.

Beyond spreading the good word and having the knowledge of how to access and use the recordkeeping system, the champion also needs to play an aggressive role in pushing issues through the organization, “resolving turf disputes” and “overriding established norms” (Beath, 1991, p. 356). The interviews illustrate how champions identified the need for records management to support their business processes and actively sought the help of records managers (i.e., who act as mediators) to help them set up a recordkeeping system. Some even spend the time learning to use the system and, in that sense, acted as a role model to the rest of the staff. Interviewee P relates her experience of pro-actively enlisting the expertise of the records manager as a “person that (she has) been looking for.” Despite being told by her supervisor not to “bother” with records management, she took the initiative to work closely with the records manager to set up a recordkeeping system in her organization and to organize training sessions for her staff. During the process of setting up the records management system in her department, Interviewee P encountered resistance from her staff who “didn’t understand why they were being involved and didn’t want to be involved.” However, Interviewee P persisted and took a firm stance with her staff by adopting the approach that “this is what we’re doing. Get on board and learn it.” She also took the effort to spend time to learn and to use the system together with her staff.

As such, archivists and records managers should consider developing a group of supporters amongst the user group who can effectively champion and promote the use of a recordkeeping system. Users who are ambivalent or resistant in the use of a recordkeeping system will then be motivated to adopt the system.

Hypothesis 3: The varying levels of support amongst stakeholders from an organization are an impediment to the successful completion of research and product implementation in the InterPARES 3 Project.

The interviews show that archivists and records professionals from the InterPARES 3 Project were supportive of the research endeavors of the Project. However, some of the test-bed sites and senior management had other priorities and, as such, their lack of commitment and active sponsorship impeded the completion of some case studies. Archivists and records professionals felt that InterPARES 3 acted as a community of practice, enabling them to participate in experiential learning and to explore new dimensions in managing and preserving digital records. Their participation in the InterPARES 3 Project allowed them to “exercise a different level of curiosity” as compared to their daily work. As these records professionals worked in small and medium sized organizations where there is little opportunity for them to actively interact with other like-minded professionals, they appreciated being involved in a research project that allowed them to be engaged with their own community and occupational subculture. For example, the InterPARES 3 Project allowed records professionals to observe the activities of other test-beds and to obtain feedback on their case studies.

There is a belief among researchers that the InterPARES Project functions as a community in practice and provides a forum for exchange of ideas amongst practitioners and academics.

A community of practice is defined as “groups of people informally bound together by shared expertise and passion for a joint enterprise” (Wenger and Snyder, 2000, p. 139). Interviewees cited the advantages of belonging in a research project with like-minded individuals. For example, Interviewee U states the benefit of working in a research project with a long term perspective:

So what we benefitted from IP3 I really felt, was from number one, the review comments from Team Canada and the perspectives from Team Canada on our own project and then also observing the other projects and the activities there and the comments there. It was really helpful. And especially as a person where there is not a lot of, there is no other RM here, so I need a community of practice, so for me that was really important to participate in a community of practice and one that was actively providing feedback.

Similarly, Interviewee W states the advantage of working in a research project where there is a “set of common assumptions, common knowledge and common language that we can use to communicate ideas among each other.” In addition, a number of the graduate research assistants for the project eventually worked for her organization. The downside of this, however, is a “lack of diversity” in terms of defining and solving research problems. Interviewee R also appreciates the value in learning from a research project. One limitation of the project, however, is that the graduate research assistants are mobile and leave the project after graduation—a period often no longer than 2 years. As such, there is “a little bit of a disconnect between each group” due to the “learning curve” for new incumbents. However, she believes that the problem will be mitigated by the doctoral students who can provide a sense of continuity.

The culture within the InterPARES 3 Project is not monolithic as the project comprises practitioners and academics. Interviewee E comments that belonging in a community of practice gave her a sense of relief as she felt that “we’re all in the same boat” when it comes to managing and preserving digital records. However, she is also frustrated by what she perceives as “academic input” on “things that are completely out of the academic realm.” Unlike Interviewee E, who claims that there are differing worldviews between practitioners and academics within InterPARES 3, Interviewee U states that even practitioners within the same community of practice do not necessarily share similar worldviews. Interviewee U believes that amongst practitioners in the project, there are different perspectives between both archivists and records managers. She describes these differing viewpoints as “looking at different landmarks.” Interviewee U asserts that there is a “huge difference between active records and archival records” and that both archivists and records professionals have a “different focus.”

The lack of active commitment from the test-bed site impedes the successful completion of the case studies in the InterPARES 3 Project.

One of the commonly cited reasons behind the withdrawal of participation by some of the test-beds in the InterPARES 3 Project was the lack of active commitment from test-bed sites. In one test-bed site, the middle manager agreed to participate in the project and was given information on the objectives of the InterPARES 3 Project. However, the interviewee claimed that the manager later “feigned complete ignorance” about the project. The test-bed site also delayed implementing a document management system, which affected the ability of the graduate research assistant to conduct an analysis of the test-bed site. Since this would adversely affect the timeframe and deliverables of the InterPARES 3 Project, the interviewee decided that it would be best for the test-bed to withdraw from the project. Another reason behind the withdrawal of participation by some of the test-beds was the lack of support from senior management. In one test-bed site, the interviewee was preoccupied with a records management project and, as such, her manager did not want her to be “heavily involved” in the InterPARES 3 Project.

The multiple roles assumed by researchers in the InterPARES 3 Project can lead to inner conflicts, which can lead to a sense of frustration in terms of the direction of the research.

The role of subcultures is also an important factor to understand when assessing the internal dynamics in a research project. Researchers in the InterPARES 3 Project play multiple roles, including upholding the values and assumptions of the organization they work for, their professional subculture as well as the culture within a research community. As such, they sometimes experience internal conflicts when their roles collide. Interviewee E feels a sense of belonging in a community that is concerned with digital preservation issues and where “everybody is suffering from the same problem.” However, she is also frustrated with what she perceives as “academic input” from other researchers in InterPARES 3 that prolongs the completion of the project deliverables. As Interviewee E states:

But I get a little frustrated with InterPARES when we kind of put our documents out there, and there's people at the meetings that say, 'Oh, gosh, you know, [the organization] should do this, [the organization] should do that.' And I'm thinking to myself, 'where are they getting that? They don't understand our culture, our constraints.' And sometimes we have to hold up completion of deliverables for like six months to a year. So, I get a little bit impatient with the academic input when they're commenting on things that are completely out of the academic realm. It's, look, I'm at the grass roots level here. You've got to trust me on this. So that's my one issue.

Other interviewees reported a sense of intellectual engagement in being involved in the InterPARES 3 Project. For example, Interviewee K felt that she experienced a “different kind of curiosity” in being involved in a research project compared to her daily operations at work. Although Interviewee K had her doubts as to whether InterPARES could solve the initial research questions, she was hopeful of its outcome. She was also enthused by the opportunity of being involved in a multi-year research project and interacting with members from the community sharing similar concerns and issues. Interviewee L also concurs that being involved

in a research project with other partners across various institutions offers her institution “valuable expertise.”

A change in the researchers’ work environment can affect the manner in which they perceive their role within the InterPARES 3 Project.

Interviewee K reflected that InterPARES, as a research project, had specific objectives and that it had a “unified direction.” As well, unlike the fairly static culture within the InterPARES 3 Project, the culture within the test-bed sites could change. Interviewee K revealed that her test-bed site experienced a positive change due to senior management support and greater profiling of the records management programme. As such, Interviewee K felt that the environment at her workplace “was becoming more complex and actually shifting as time went along.” Interviewee K’s reflection is in line with the literature, which states that the culture of an organization can evolve and that the environment can be shaped by other external factors and individuals (Bloor, and P. Dawson, 1994; Denison, 1996). Although Interviewee K did not experience a conflict between the goals of the InterPARES 3 Project and the goals of the institution for which she works, one senses the multiple layers of culture that participants of the InterPARES 3 Project could experience due to the variety of roles assumed by each person. These roles include being an archivist or a records professional, an employee of a small or medium sized organization and, in some cases, a middle manager of an organization.

Hypothesis 4: There could be both converging and diverging views in defining the concept of a record as well as in recordkeeping issues amongst various subcultures and within the same subculture from both within and across industries. There may be subcultures that identify more strongly with the prevailing institutional culture, while others may associate with their professional subcultures in the form of professional organizations and networks outside the formal organization structure.

There are varying conceptualizations and interpretations of the definition of a record amongst different groups of stakeholders. Even amongst archivists and records professionals, there is no common consensus on the definition of a record.

There are varying worldviews amongst various groups of stakeholders on what is a record. Amongst records creators, there are those who consider everything they create to be a record and there are those who are not even aware that they create records in the course of conducting business activities and transactions.

Interviewee B considers “any written documentation” to be a record regardless of whether it is paper or digital. As her job requires her to deal with digital records, she considers records to be “e-mail or documentation saved in a digital form.” Like Interviewee B, Interviewee I defines records as comprising both “paper filing and computer files.” Similarly, Interviewee Q states that a record is a “document in whatever format that supports [the organization’s] functions.”

In contrast, Interviewee A shares her experiences of dealing with records creators who claim that they do not have records. She states:

You may receive an e-mail from an Executive Director or sometimes a VP saying, 'I don't have any records.' That's those kinds of questions that are totally unexpected. Then you have to pause and start to think, How am I going to respond to that?

There are also records creators who are very specific about the type of records they handle as part of their business activities and thus have an implicit understanding of the records that they create and utilise. For example, Interviewee D makes a clear distinction between the incoming paper documents she receives in the course of her business activities and the database used to manage and track the business' work processes. She considers the paper documents as records but not the database. As Interviewee D explains:

So, for almost all of us, our most important records are outside documents that come in paper format. And [that would include] the documentation that goes along with that. So, letters from the applicant. So, that would be our main, important record ... but we also have a computer resource that I wouldn't consider a record, it's more of a tracking document. I think for the most part [we] would go to the hard copy, to the actual paper folder.

In the case of Interviewee Y, she views metadata as a record, based on her organization's business workflow. As she elaborates:

It's basically a metadata record defined in Dublin Core and we typically have a generic Dublin Core, a set of Dublin Core fields that we request the submitter of an item to fill out.

Interviewee O recommends that records managers spend more time discussing with record creators what qualifies as a record to “ensure that we're talking about the same thing.” She feels that most record creators “understand best what records they create” as they have “an inherent understanding of their business process and how the information that they create supports that business process and what they would need to retain for reference purposes.”

The interviews reveal that although the term “record” is a word familiar to records managers and archivists, this word may not even be used by record creators in the course of carrying out their business activities. According to Interviewee Z, the term ‘record’ is not used as part of the everyday vocabulary of the professionals in her organization. Instead, the term ‘product’ is used. As Interviewee Z clarifies:

We don't actually view it as a record-wise. I mean, if you talk to [our profession], they just view it as a product, you know, this is our product and we saved all our products...Because they're for a client, here's our product, you can use it. But they are records.

Similarly, Interviewee R states that the professionals in her organization tend to equate records with the system that they use to support their work processes. According to Interviewee R:

The association to the records people after that, that may be a little bit misleading to you because the term records that we use isn't the term records that you're talking about. So, the people that are in charge of our quote/unquote records generally are talking about data that's in transition. So, for example, the main data system that we use, that we erroneously refer to as records, is a system.

In the case of another interviewee, the idea of a record is associated strictly with a “criminal record for something you did wrong,” which may be totally different from what the records manager has in mind. As such, it is important for records managers to understand the language used by records creators and not to assume that records creators understand the terminology used in archival science.

The interviews also reveal that some records creators tend to associate the corporate record of the organization with paper. For example, Interviewee M claims that she keeps very little paper and that formal documentation, such as contracts that are signed and are in hardcopy format, are kept and managed by a support staff member in her department. Consequently, Interviewee M does not know how the records are organized or whether the support staff member maintains a digital copy of the records. Interviewee M is more concerned with accessing the digital copies of the records that she saves on her network drive than with the corporate records managed within her business unit.

One possible reason why records creators tend to associate the corporate record with paper is because the paper record is perceived as what Interviewee S refers to as the final “signed and sealed original copy.” Interviewee T concurs with Interviewee’s S perspective saying:

They think that it's only the formalized, finished, complete, signed, sealed, delivered; that's the record and nothing else is. And it's actually the opposite, you know...

The tendency to associate records with paper and not to consider digital records as corporate records is also observed in a separate interview with Interviewee E, who provides the following observation:

You know, very, very few people understand that and they consider their e-mail and their LAN based documents and their My Documents on their C:\ Drive, they consider that their own. And no one who leaves the institute puts any thought into the fact that their e-mail will be destroyed when they leave, their My Documents will disappear; they just go merrily on their own way. And I'm actually pretty comfortable with the fact that we have not yet invested [in] an EDMS, because our culture wasn't ready. But we do have an infrastructure of more than a hundred people that are totally cognisant of the paper based records keeping compliance and mandate and why they are doing it, and what retention period, and what destruction means and what storage means.

According to Interviewee G, most records creators understand that their “filing cabinets” and “desktops” are records but not in the form of e-mails. As Interviewee G states:

[They] don't think e-mail's a record. They think it's just, they treat it like a telephone conversation, it's personal, it's mine because only I have access to it in my e-mail inbox.

Interviewee Q makes a similar observation, noting that most records creators have difficulties understanding that an e-mail is a record. As she states:

But then, files that are attached to an e-mail and how that's managed, because they would exist probably on a network, they may exist in print, they're attached to an e-mail. And I think, just attaching it to the e-mail in some people's minds would take it out of the class of being a record.

Interviewees G and Q's observations corresponds with Interviewee M's views about e-mails. Interviewee M regards e-mail more as a "service" and as a means of "communication." Although Interviewee M acknowledges the importance of keeping and ensuring access to records for litigation, auditing purposes and as part of the decision-making process, e-mail, in her worldview, is not regarded as strategic to the functions and operations of the organization. As such, resources and money should not be pumped into managing e-mails in comparison to other essential records, which directly serve the interests and needs of the customers served by her organization. Interviewee M also felt that "cloud computing" should be deployed as a strategy to manage e-mail so as to achieve greater "economies of scale" from the vendor. Yet, she acknowledges that cloud computing cannot be implemented in her organization because of concerns raised regarding security issues, but she believes that these concerns can be effectively addressed with the "right vendor and right security things in place."

Another observation is that there is not a commonly agreed upon or unified concept of a record, even among archivists and records professionals managers. Some archivists and records managers view a record as being anchored in archival science and diplomatics. For example, Interviewee K defines records "in the traditional sense of documents made and received in the ordinary course of affairs and preserved." Similarly, the records management policy adopted in Interviewee's A organization defines a record as:

...documents created, received, and used in the course of conducting business activities, regardless of medium or format, and managed as organizational knowledge base, operational evidence, corporate memory, and national documentary heritage.

In contrast to records managers who adopt archival science's "made and received" definition of a record, Interviewee E stresses the importance of making distinctions amongst records that are transitory, duplicates and records that are required for evidence. As she elaborates:

Some records managers say, 'all electronic documents are records and I, the records manager, need jurisdiction over them.' I have a different perspective, where I consider the mass of electronic documents, approximately ten to fifteen percent are valuable records of evidence, and the other percentage are either transitory and not needed beyond thirty days or they're duplicates, or triplicates. I mean, we have e-mail messages going out with an attachment to a couple hundred people. That's just silly. And so our IT architecture is clogged with at least, I'm estimating, eighty-five percent just doesn't need to be there beyond the transitory time frame, which is two months to twelve months.

Some records professionals stress the need to make a distinction between a record and a document. For example, Interviewee BB says that, in her organization, only documents that are registered in the EDRMS as read-only are considered records. However, documents that are not formally registered in the EDRMS as read-only are not considered records and can be destroyed since they are perceived as “much less valuable than a record.”

There are also archivists and records managers who have chosen to identify themselves with the specific needs of what they perceive as the dominant subculture in the organization and less with their professional subculture. For example, Interviewee C relates with the users of the organization and has decided to “save”, as records, documents she perceives to be “useful information,” even though they are not created by her organization. As she states:

I don't care if they're officially [part of the organization]. We save them because they are about the [the organization]. ...and those aren't records, but I don't care. I'm just saving stuff that'll be of use for me to advise people down the road...[that] “this is what happened,” or for them to look at first hand.

The same interviewee elaborates on her stance:

We'd [InterPARES 3 Project researchers] spent a long time discussing what we should do with the [entities]. There was some discussion saying ‘Are [they] really records?’ And again, I don't care...

There is no common consensus amongst stakeholders on the important attributes of a record.

Since different groups of stakeholders have different purposes and business requirements in creating and utilising records, they tend to have varying viewpoints on what they consider as the important attributes of a record.

Interviewee AA notes that, in the legal profession, “the best evidence are the original documents.” As she states:

Anytime... an injury client comes in to sign an agreement, the hand-written copy will go into the billing section of the file, so obviously that's a legal document. Furthermore, evidence in the form of records may be hand-written and the electronic copies may not be good evidence if we have to go to trial, it's not the best evidence...So, if a client has to pay for drugs, physiotherapy and needs reimbursement, the originals are what are submitted to the courts. Copies may be permissible but you need to make an application to ensure that they are permissible and they're really only permissible if the original is destroyed.

As such, Interview AA's profession requires her to place an emphasis on what she considers as the original record. In addition, the record must be created in a timely manner before there are changes to the situation that the record is documenting. As she elaborates:

I would presume the most important type would be the actual evidence itself. I mean, if it's a letter that is on a computer and may not be that important. Plus, we have back-ups with the computer, so the most, the records that always concern me and that are of the most importance are these original records, that are not replicated. So, for instance,

photographic evidence, especially the scene that's been changed because we could have a record that produces, for instance, a broken staircase, and after it's repaired, then it's too late to replicate that record if the photographic records are destroyed, so I'm very careful about those records which [are] actual evidence.

Like Interviewee AA, Interviewee R is careful about presenting evidence to court. She states that her profession is accustomed to being questioned by “an antagonistic court environment” to demonstrate that “these records are accurate and reliable.”

Unlike the more legalistic professions, Interviewee Z's profession requires her to value accuracy and precision in terms of scientific data collection. As she states:

Because I'm a scientist, I look at data, I look at past data...unless that past data is good, how can you make any conclusions from it? All of my work is based on the quality of that data. So, quality assurance, quality control is extremely important to me, as a scientist. But to somebody else who may get this job that doesn't have that background, that doesn't have that training, won't think it's important.

Interviewee Z cautions researchers utilising data from her organization to look beyond the content as “there could be errors”, and “to be very careful and really check that data first and make sure it's all accurate to your standards or your specifications depending on how much accuracy you want.” As she elaborates:

It's the metadata that explains that but researchers typically think that the data is perfect because it's available, and it's not, they really have to do their own quality control on the data. That's always been a problem.

Interviewee Z also cited an incident where a researcher made certain assumptions and conclusions based on his analysis of historical data. Interviewee Z disputed the researcher's claim. As she elaborates:

What happened was the first half of the data was measured by Americans, the second half of the data was measured by Russians. The instrumentation had changed and so there was a step function in there, so a bias from the instrumentation and that's what the researcher perceived as a change in the sea state and it's totally wrong, it was a change in instrumentation. I saw that as a junior science [person] but this researcher missed it because he didn't go back into the data to find out what had been changed, so that's a perfect example.

The varying definitions of a record amongst different groups of stakeholders is a manifestation of the contestation of the socio-political space within the organization.

Morgan postulates that organizations can be viewed and understood in the form of metaphors. One metaphor that can be used to understand organizations is the concept of organizations as political systems. In other words, an organization can be characterised by coalitions of interests, power relations and conflicts amongst its various stakeholders (Morgan 2006, p. 156). The interviews reveal how the varying definitions of a record reflect the

contestation of socio-political space within an organization. According to Interviewee U, the IT manager in her organisation was particularly interested in the concept of a record, and was described as being “really obsessed with the concept of transitory record.” Interviewee U’s worldview is that the IT manager wanted to find a definition of record that would marginalise the role played by records management in the organization. As Interviewee U elaborates:

So, it’s sort of something that, from my perspective, just from that particular part of IT, IT Management, I see them trying to find a definition of a record that works for them and they like the transitory because it means that it might not be a record. That’s what they’re looking for, because if it’s not a record, then you may not have to manage it.

In the case of Interviewee V, she shared that her senior manager “has a very strong view about what she considers a corporate record and what she considers transitory.” In Interviewee V’s worldview, she can provide her senior manager with both legal requirements and best practices in records management but concludes that “in the end, it’s her decision as to what the direction of [the organization] will be.” In other words, Interviewee V perceives that the ultimate decision and power, with regard to the organization’s direction in records management, is vested in the senior manager.

Besides specific groups of stakeholders who have their own construction and interpretation of what a record means to them and how it may possibly advance their interests and goals, some stakeholders perceive a record as a means to protect themselves from their supervisors and colleagues and to demonstrate that they have exercised their due diligence in carrying out their job. For example, as Interviewee W describes:

I think there’s another category in there, that, for lack of a better term, I think you can call “ass-covering records” that people are either making or keeping as evidence that they’ve done some task, that they want to be able to say “I’ve done this, it’s not my fault if something else happens as a consequence of this.” So, they’ll either make a record, typically by sending an e-mail or keep something that someone has sent to them to prove that they’ve received it and acted on it. And I think a lot of that stuff isn’t necessarily records that need to be kept for the organization in order to actually do its business. It’s more, and that’s like an internal cultural thing to assert your power against your peers or your supervisor or whatever. Office politics!

Hypothesis 5a: Different groups of stakeholders have differing understandings and expectations of their roles and responsibilities in recordkeeping and/or preservation as well as the roles and responsibilities of other stakeholders in recordkeeping and/or preservation. These differing levels of expectation are potential sources of tension and barriers for the successful implementation of a recordkeeping and/or preservation system.

There is a lack of shared assumptions about the objectives of recordkeeping.

The interviews analysed indicate that there appear to be few, if any, shared assumptions about the objectives of recordkeeping. Interviewee E states that IT assumes that records creators from the various business units understand recordkeeping requirements, an assumption that may

be totally erroneous. Interviewee E elaborates on the different perceptions from the various stakeholders—records creators, IT and records managers—in terms of understanding records and the purpose of building a records management infrastructure:

...The IT shop, in my observation, assumes that the business unit understands fully the records management requirements of the institution. And my position on that is that no end user fully appreciates the electronic records requirements. So, end users are just going to IT and saying something like: 'Oh, I need a collaborative repository of records,' and IT says, 'Okay great, here it is.' And that isn't involving records management and so it's a lost opportunity.

Similarly, Interviewee B perceives that the process of digital records creation, recordkeeping and preservation is the responsibility of records creators from the business units and the archivist, while the role of IT is to simply provide technical advice and to play a “supportive role.” As Interviewee B states:

The IT Department will give them instruction on how to do these things, but to actually change all these things into a digital form, it's their department's responsibility.

Interviewee B also claims that the decision to purchase the necessary software rests with the respective departments since IT does not play the “decision maker role.” Interviewee B's comments conform to that of Interviewee M, who suggests that IT should only play a supporting role in developing a records management system, and should concentrate on areas relating to infrastructure, such as in the area of security. Interviewee M believes that ultimately the:

...business in conjunction with the records management have to dictate what level of risk's acceptable and what's a procedure that's actually going to work for everybody; that, like, is easy to use and that people will actually follow.

However, the perception by IT managers that they should only play a supporting role in terms of developing a records management and preservation system is in conflict with the expectations of IT by some archivists and records managers. For example, Interviewee F expects IT to make informed choices on the type of technology to utilise. As she states:

...we expect IT to keep the systems robust and to deliver services to use as the client ... We also expect them to make good choices around what technology to embrace and what technology to discard, because we're making those choices all the time ourselves.

However, the expectation about IT playing a lead role in managing systems, such as making decisions on the type of technology to adopt, is not universally accepted by members of the same professional and/or occupational group. As Interviewee K suggests, IT does not operate “from a place of primary authority” with regard to digital records; the real authority lies with the “department's head, the directors and their senior management”; as a result, IT is in no position to dictate terms to the business units. Interviewee L also highlights that the IT department is “under-resourced and they have so much else on the go.” As such, this shows that members of

the same professional and/or occupational group can have differing expectations about the roles and responsibilities of other stakeholders.

From the perspective of records creators, IT is not concerned with issues related to recordkeeping and preservation; instead, their focus is on keeping the infrastructure and “computers running.” According to Interviewee D, IT views the department as a liability because the department “eats up a lot of [IT’s] resources and [computer memory].” In other words, IT is more concerned with storage space than with issues related to digital records and digital recordkeeping and preservation. Interviewee D concurs with Interviewee’s K observation that, eventually, IT will accede to the business unit’s request, even if it means increasing the capacity of their network space.

The records manager’s use of language to represent and to communicate a particular worldview about records and/or a recordkeeping system can be a potential barrier between other stakeholders.

Language enables individuals to construct and codify their meaning of the world. It also serves as a means to legitimize “objects of knowledge and the shaping of meanings and their attachment to social objects” (Chia, 2000, p. 515). Language can also be a unifying form as individuals can utilise language to represent their construction of reality. In fact, Searles argues that language can “represent not only what is the case but what was the case, what will be the case and what they would like to be the case” (Searles, 2006, p. 19). However, the interviews also illustrate that language can potentially be a divisive feature in social life. There is not a single definition of any word and “even when we agree on the meaning or usage of a particular word we still may not have all the same criteria for its use” (Blair, 1990, p. 23). Interviewee U notes that even within the archives and records management profession, there are differences in perspectives and usage of terminology and she describes it as “looking at different landmarks.” As Interviewee U elaborates:

And I know that in many ways, people think that RM and archives are in the same way, we go to the same school but I just find that there’s a huge difference between active records and archival records and even if your active records are permanent, or maybe they’re semi-active, the whole thing—the life cycle, the disposition, the destruction, classification—you really have a different focus and it’s maybe even narrower than the archival focus but it’s just very different.

The meaning and usage of a word is also context-sensitive; “the context of an utterance can be so strong that it completely overrides the meaning of the actual words spoken” (Blair, 1990, p. 26). Consequently, it is important for records managers to recognize that users have different priorities and concerns. They should also be conscious of “the language [users] want to hear” and use the right language to engage and connect with their users. Interviewee X cites a former colleague who is described as being “very heavy-handed” and who “likes quoting the Records Management Bylaw.” Interviewee X describes her former colleague’s approach and use of language as follows:

... I kind of just remember this woman, you know, printing it off and “According to the Records Management By-Law...” no one cares, and I mean, it’s a by-law, so you can’t get arrested, so no one cares. No one cares about by-laws in general. So, I mean, it’s like for me, I’ve taken a very different approach.

Interviewee X also recounts her organization’s experience of learning how to use the right language to connect with users. As she explains:

I think it took them a while to switch their language from Records Management because, I mean, they were meeting with city clerks and with a lot of records people and they were all, like, pumping themselves up because of how awesome it was from a records standpoint; you can’t, this is not going to fly with people. The average ‘Joe user’ is not coming from that area at all and they just want to know how it benefits them in their daily work and, if you can’t convince them of that, they’re just simply not going to use it.

Interviewee A agrees with Interviewee X’s stance of using the right language. She states that both the business unit and records management tend to “speak totally different languages.” And because business units do not understand the “language about records management,” she has made an effort to understand the business strategies, policies and procedures of the business units to bridge this divide. Besides the different languages spoken between users and records managers, Interviewee U observes that the language used by IT can alienate staff. As she states:

I find that many times that people in IT will use the most difficult language they can. That’s my impression and I don’t think I’m the only one.

However, Interviewee U claims that it takes more than just language to engage users during records management training session. She stresses that it is important to create an environment that appears non-threatening and one that does not impose additional demands on users. As Interviewee U clarifies:

So it’s not just the language, it’s sort of this trying to create a sensation that they’re getting something, that we’re giving to them that we’re supporting them because I think a lot of the times, these people, if you think about our staff ratio, they’re having to give and they’re being asked for a lot. So, we’re trying to say we’re giving you support, we’re giving you information and we’re not going to ask anything that you’re not doing anyways...And I think I say that too, you know, like I say at the beginning of a presentation, “I know what you’re thinking but this is going to be really easy, we’re going to be out of here in twenty minutes.” I’ll say things like that right off. Anyway, I don’t know...that’s, I guess I do know, that’s what I think works.

Hypothesis 5b: The implementation of a recordkeeping and/or preservation system in itself can bring about a change in the organization, which can be a source of tension.

The interview data support this hypothesis.

Differing levels of expectations amongst stakeholders on the value of adopting a recordkeeping system and as to what the recordkeeping symbolizes is a source of tension and can result in user resistance.

The interviews also reflect that different groups of stakeholders may have different goals and objectives in terms of developing a recordkeeping infrastructure. In the case of Interviewee G, the assumption of the records manager was that “electronic recordkeeping software wouldn’t be a good fit for most [...] departments because most departments are small and they don’t have the resources to purchase that expensive type of software.” Interviewee G and her team then proceeded to develop a file plan for the business unit. However, this worldview was not accepted by the project manager of the business unit, who proceeded to purchase a system that did not accommodate recordkeeping requirements. Interviewee G explained the position adopted by one of the project managers as follows:

I think he saw the file plan, minus a piece of technology to automate it, as antiquated, and that it needed technology to drive the project forward. And what we had initially envisioned was a file plan that could be applied to paper records and a file plan that could be mimicked in the shared drive on a directory [where] people could start organizing their electronic records. He didn’t think that that was the best way to go.

As such, this divergence in worldviews resulted in a cultural conflict. The above scenario fits into what Leidner and Kayworth refer to as a contribution conflict, which is the “perceived relevance or irrelevance of IT to complement the group values” (Leidner and Kayworth, 2006, pp. 374-375). Unlike the records manager, who perceived the system as a “shared directory on steroids” and emphasized the development of a file plan, the project manager from the business unit viewed purchasing a system as a “better solution to automating their file plan and the storage of records than nothing.”

Interviewee G’s experience in formulating a file plan is somewhat similar to that of Interviewee U. Interviewee G’s concept of a file plan was initially opposed by the IT Department, which did not want a corporate-wide file plan and instead wanted to “simplify the root folder structure.” It took her months of negotiation before the file plan was implemented institution-wide. Interviewee G relates her experience as follows:

But there are certain points in records that are deal breakers and they’re just not, they’re non-negotiable. And to me, the classification plan is one, because if you take it away, I have no tool to work [with], so there’s no sense. There’s no Records Management, and in an environment this big there’s not going to be any progress without it.

This insight is also another example of a contribution conflict. IT did not want a corporate-wide file plan and instead insisted on a simple “root folder structure” in the EDRMS. IT also expected the records management team to “put in all the classification at the backend.” However, Interviewee G and her team viewed a file plan as a corporate-wide initiative and something that is a “non-negotiable” component of an EDRMS.

Leidner and Kayworth (2006, p. 375) also highlight that cultural conflict can be manifested in the form of system conflict, where values implicit in the IT system come into conflict with the values held by group members. For example, the values of the system can come into conflict with the overall values held by the group. Some records creators erroneously perceive the objective of developing an EDRMS as going completely paperless and that “everything is filed and kept electronically and organized electronically, and there is no paper created.” At the very best, the objective of the recordkeeping and preservation system is to “keep as little paper work as possible.” This potentially conflicts with their current behaviour and mode of working, which is still very much paper orientated. As Interviewee J admits:

I just, I know, I am the old-school. I still like my piece of paper. I like to be able to see it, and touch it, and read it.

Similarly, Interviewee D states that the overall objective of the system is to work towards an environment where “everything will be digital” but she admits that people are more comfortable dealing with the actual paper records:

People like the [paper record], maybe it's easier on the eyes or it's easier to flip through a whole set of [records] when you actually have a paper set. I just think people are more comfortable with that.

Interviewee I believes that it is important to embrace the use of technology to reduce the use of paper and views the low IT skills of staff as a main impediment towards developing a good recordkeeping system in her organization. In other words, the EDRMS system, by itself, can be considered as a form of culture and is associated with a value system that can either conform or conflict with the values upheld by stakeholders.

Another level of conflict is the vision conflict, which is the conflict between the values in a technology and the overall IT values (Leidner and Kayworth, 2006, p. 375). Interviewee E cited a case where IT informed the business unit to wait while they conducted an analysis of a system that they were considering to deploy for managing records. Interviewee E viewed this as an opportunity to work with the business unit and to develop a solution to manage the records within the existing infrastructure of the organization and, in the process, develop a set of recordkeeping requirements that could be adopted for the entire organization. However, these recordkeeping requirements were viewed by others as being at best “onerous,” “time-consuming,” “very cumbersome” and, at worst, “rigorous” and “a bit militant.” For example, another interviewee explained her stance on this issue as follows:

... like, I'm sorry, but nobody's going to do that. Like, it would just take so long, like to, you wouldn't be able to get anything done all day. Like, it's just very, very cumbersome. If it were easy and you just, whatever; but I think it just, like, from my understanding of it anyway, it's more than is necessary. It's like, why can't I just leave stuff in my e-mail, like what's wrong with that? But that's not the perception. That you have to tag them and move them over, it's like, but I don't need to keep it later. So, I don't know, anyway. I would say it seems more rigorous than might be necessary for the average transactional stuff.

There are varying perceptions amongst stakeholders on the affordances of paper versus digital records. There is a perception that paper records are more tangible and flexible as compared to working with digital records in an EDRMS system. These stakeholders view the electronic recordkeeping system as cumbersome and believe that it conflicts with the manner in how individuals think and behave. On the other hand, there is the viewpoint that digital records offer easier access as compared to their paper equivalents.

Interviewee N notes that record creators sometimes struggle while working in a hybrid environment and have an emotional attachment to paper. She states that there is an element of “comfort of being able to flip through a file to see the historical stuff” and that it is “much harder to apply the same level of control and the same types of controls to the information in digital format.” This explains why there is some form of “jealousy” with certain departments who still work with paper records rather than using the EDRMS system.

Like Interviewees J and N, who observe that people tend to be more familiar and comfortable working with paper, Interviewee O comments that paper is more “engrained process-wise” as compared to the digital environment where people encounter difficulties in keeping different versions of records and where, therefore, it is much harder to apply the same types and levels of control to information in digital format.

Interviewee AA provides a perspective on the element of comfort in working with paper records. She perceives paper as being a more flexible medium and more suitable to the way she thinks and works. As she explains:

I don't read (records) in a linear fashion. I might skip around ... If we were to go to a purely electronic system, I would just be stuck on the computer reading one page at a time, or maybe two pages, but it would occur in a certain, predetermined order. It would be much harder to switch around from various records. If I have an actual paper binder full of records in front of me that are all connected to that one file, I can jump around. If I suddenly have a flash of inspiration, I can look for that particular document in the appropriate file right away as opposed to floundering around in the computer...It might be you're just having coffee, or not entirely focused on something, you have that flash of insight, and so you have to go to that particular document. In electronic form it would actually take longer, because you'd have to scroll down on a page; so, I find reading an electronic record online is different than paper, I still prefer the paper version...Sometimes you want to invert something, you want to start at the end and then go back to the beginning or any permutation.

Interviewees P, V and W highlight that most users prefer having a system that is perceived as “invisible”, “user friendly” and “intuitive”. Interviewee P laments that she has to learn to “work around” the system instead of the system meeting her needs effectively. She describes this process of getting around the system as “trying to make an old dog do new tricks.” Interviewee P’s comments conform to Hutchby’s premise that “when people interact through, around, or with technologies, it is necessary for them to find ways of managing the constraints on their possibilities for action that emerge from those artefacts’ affordances” (Hutchby, 2001, p. 450). Interviewee V describes the EDRMS system as “clunky in a way” and that “it just isn’t as

smooth, isn't as good, isn't as easy to use." Interviewee W adds that users expect the system to "look the same as it used to, even though under the seams it might be doing something different or behind the scenes it might be doing something different"; thus, they want the system to be seamlessly integrated with their business processes.

On the other hand, there are individuals who perceive that there are advantages to using an EDRMS as compared to a paper-based environment. For example, Interviewee N cites the advantage of the "ease of access", which makes it easier for a person to work from home; in this sense, the EDRMS is "a lot more convenient than paper ever was."

The interviews illustrate the possibility of viewing an EDRMS and a paper record as a form of artefact that is not separated from the people, but one that involves a form of "situated social interaction" with people (Hutchby, 2003, p. 582). Indeed, both the EDRMS and the paper record are a form of an artefact that is not a "neutral social medium" but one that is actively being shaped by the user, such as when the user attempts to 'get around' the intricacies of the system to meet his or her business requirements and habitual manner of doing things (Hutchby, 2001). The perceived strengths and weaknesses of the artefact, based on an individual's experiences and interaction of the system, influences the manner in which people interpret and represent an artefact and communicate the enabling and constraining aspects of the system to other groups of users and stakeholders (Gaver, 1991).

Conclusion

Generally, the data sources obtained from an analysis of the interviews and the InterPARES 3 Project reports support the five hypotheses developed for this general study. The interviews showed that organizational culture can manifest itself at different levels within an organization—at an enterprise or municipal level, at a business group level and even amongst different occupational groups. Consequently, it is important to recognize that there are multiple subcultures operating within an organization. Beyond the group level, culture is also manifested at an individual level. This is because employees working in an organization also have their own unique experiences such as their professional education and training and prior experiences in using a recordkeeping system. As such, these individuals do not passively accept an organization's policy and procedure in terms of using a recordkeeping system. Individuals also actively interact with the recordkeeping system and this, in turn, influences the way they perceive the technology. They also influence their colleagues' perception of a recordkeeping system. Archivists and records professionals thus have to adopt a multipronged approach to work within the culture of the various groups operating at different levels of an organization. They also have to understand employees' experiences, assumptions and beliefs of a given recordkeeping system and technology at an individual level.

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