

# The Changing Nature of Archives: Whose Responsibility?

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**Abstract:** The implementation of eGovernment and the increasing amount of e-services leads to the production of huge amounts of digitally recorded information. In turn, this raises a demand for well-functioning e-archives, considering the laws and regulations of public and citizens' rights and obligations. However, we find that there are difficulties in public organisations in dealing with the complex and challenging issue of digital preservation. Not only does eGovernment transformation change productivity, governance and governmental coordination and collaboration, it also transforms the everyday work practices of many public sector employees. A vivid example is archivists and archival work. The matter of e-archives is often left to the archivists, who have limited power and influence to be able to deal with digital preservation to the extent needed. The research question we address is therefore: who should be held responsible for the changing nature of archives and digital preservation in an organization? Our aim in this paper is to analyse and discuss plans for, and layers of, responsibility for digital preservation as configured and reconfigured in archivists' stories and Swedish national policy documents. We use a model that covers three arenas: political, organizational, and practical (or individual). Our findings suggest that to conduct good governance and create properly-functioning e-archives there is a need to spread the responsibility for these e-archives and to plan for cooperation, coordination, and communication around digital preservation. This should happen in interplay between the various actors which hold the practical responsibility, technological responsibility and strategic responsibility. Additionally we note that the view of archivists as keepers of information is moving towards the role of facilitators, who support access to information rather than merely keeping it intact for future. Moreover, as a result of technological developments we find that issues to address in further studies are the present laws and regulations that govern archives, change of work practices and ways of dealing with digital preservation.

**Keywords:** digital preservation, eGovernment, digital archives, participatory design, actors, and agendas

## 1. Introduction

As in many countries the Swedish public sector is undergoing a transformation process characterised as a modernisation process to create a well functioning service society under the overarching concept of eGovernment. The ambition is to create a society that can offer governmental e-services, e-administration, e-democracy and e-participation based on IT, the prefix 'e' standing for 'electronic'. These efforts rest on policy goals, such as increased productivity and improved effectiveness, efficiency, information quality, interaction mechanisms, better governance tools and to improve government coordination and collaboration (Grönlund and Ranerup 2001; Andersen, Grönlund, Moe and Sein 2005; Stoltzfus 2005; Andersen 2006; Gauld, Grey and McComb 2009; Sefyrin and Mörtberg 2009). The focus on e-services has implied a transformation of e-commerce and e-business applications and services to the public sector. These are, however, designed for consumers as prospective users in a market without any thought for the public and citizens' rights and obligations (Contini and Lanzara 2009). Also, Ivan Horrocks (2009) emphasised how experts from IT consultancies and industry have gained power and influence on eGovernment in UK.

eGovernment is now an established research domain within information systems (IS) research communities. Electronic recordkeeping and electronic document management have been addressed within IS research in the area of Enterprise Content Management (e.g. Munkvold et al. 2006). An explicit focus on design for record keeping is the contribution of Erik Borglund (2008). The research is often based on problems related to implementation and recordkeeping after the electronic record has been created, or on guidelines for how to design information systems in which electronic records are created and managed. Despite extensive research in eGovernment (see e.g. Scandinavian Journal of Information Systems 2005 17:2; European Journal of Information System 2007 16:2; and Journal of Strategic Information Systems 2008 17:2), the dominant eGovernment discourse is marked by a silence about employees in the public sector and their involvement in the building of eGovernment. But the modernisation process will also change the employees work conditions and daily practices

(Mörtberg and Elovaara 2010; Sefyrin and Mörtberg 2009). Therefore, our intention is to point to the organizational issues and archivists' experience of the transformation archivists' practices, from dealing solely with paper based archives to also managing digitally created records whilst still upholding governmental principles for official records and archives.

The increasing creation of new digital official records (with no analogue original) makes it important to establish well-functioning e-archives. This part of eGovernment is about making sure that the authority is reliable and trustworthy, and able to access its high quality digital information now and in the future. People involved in research or work with eGovernment (from an administrative perspective) ought especially to acknowledge this. A functioning (e-) archive is regarded a precondition for eGovernment to succeed (SOU 2002:78; SOU 2002:97). eGovernment demands good governance, which in turn requires that organizations have both the organizational and technological capability to adopt e-governance initiatives (Rahman 2007). However, being reliable and trustworthy, and so on is an issue not only for governmental authorities but is of concern to any kind of organization that creates an archive, including private companies (Munkvold et al. 2006), interest organizations and so on. Even if only governmental agencies were obliged to archive official documents by law in Sweden, archiving *per se* is not any different, i.e. the situations reported here are similar regardless of organization type, not least since archiving is closely connected to record-keeping (Borglund 2008).

Many archivists act as if digital preservation is their responsibility and this is not surprising since archivists have traditionally been regarded as keepers of societal memory (Cook 1997). According to the Swedish Archives Act (SFS 1990:782, 4§) every authority is responsible for its archives, unless an archival authority has taken over. Hence, it is the authority that has the obligation and commitment to secure societal memory. Securing societal memory could apply to societies, organizations, or individuals. We therefore take it one step further by referring to the kind of responsibility that involves doing something concrete. Fulfilling a responsibility involves making sure that something happens. These actual actions most likely differ between society, organizations, and individuals, but the question remains – who should be responsible for e-archives and digital preservation?

Our aim in this paper is to explore, through archivists' stories and national policies, how plans for e-archives and digital preservation are or are not being shaped. The focus will be on the configuration and reconfiguration of responsibility for digital preservation. More precisely, our research questions are: in Swedish governmental authorities and organizations, who takes responsibility for digital preservation and in what way? Which different actors should act in order to take responsibility for digital preservation? Additionally, we wish to raise awareness of organizational issues in relation to digital preservation since it is rare within this overall perspective though it is found in the digital repository audit method Drambora (DCC and DPE 2007).

The next section presents an overview of preservation work in general before setting out our theoretical framework. This is followed by the method used for data gathering. Thereafter we report on our analysis and illustrate with interview data of archivists' views of local and managerial organizational levels. This proceeds by using analysis of national policies – the policy making arena. Identified issues, such as preservation strategies, social constructions of archivists, archivists in relation to IT and systems design, which are drawn upon for the final issue, responsibility for digital preservation are discussed. The paper ends with conclusions, implications, and suggestions for further research.

## **2. Preservation work in general**

To get digital preservation to work, activity is needed. Concerning how to act, the organization needs to develop something that guides behaviour; that is, how their personnel are expected to act. Thus, organizations need a plan that points out the course of action for digital preservation. Suchman (2007) distinguished between plans and situated actions; the latter is when we actually act out the situation at hand; it is situated and builds on ad hoc improvisation. Thus, Suchman (2007 p. 72) argues that: "plans are resources for situated action but do not in any strong sense determine the exact course." We agree, and further argue that it is in this way that there is a need to implement a plan for digital preservation – the plan should describe expected actions along general lines. The plan should then be spread and interpreted among and by personnel until it ultimately reaches the individual that is supposed to act. A person's ability to act according to the plan depends upon the skills available to her/him in situ. This is so regardless of whether there is a plan or not. However individual behaviour in that sense is outside the scope for this article.

Archival theorists claim that archivists must have a pro-active role and be involved when IT-systems are to be bought or (re)designed and implemented (see e.g. Bearman 1994; Cook 1997; Dollar 1992; Duranti 2001). This is supported by researchers from the informatics area (Borglund 2008; Nilsson 2008; Quisbert 2008; Runardotter 2007; 2009). We extend this and argue that personnel concerned about digital preservation should be involved in matters concerning IS design. However, this seems not to be the case in Swedish organizations. On the contrary, many archivists are not invited and their knowledge is not asked for when computer-based IS are on the agenda (Runardotter 2007; 2009; Runardotter, Mirijamdotter and Mörtberg 2007).

### 3. Using arenas for mapping actors and agendas

For exploring how plans for digital preservation are/are not being shaped according to archivists' stories and national policy documents we use a framework by Gärtner and Wagner (1996). They build on Participatory Design (PD) with its underlying ideas and focus on use, the relationship between design and use, involving stakeholders, increasing mutual learning, and bringing forth the advantage of motivated users of the systems (see e.g. Bratteteig 2004; Bødker et al 2004). However, Gärtner and Wagner (1996) observed that while the Scandinavian approach to PD is supported by a strong tradition of workplace democracy, political issues seem to have vanished in favour of the partnership between designers and future systems users (practitioners), which led them to a framework provides us with an approach that covers three arenas, A, B and C, in which national policies are interpreted and translated. Their framework enables discussion of the political and organizational context, and involves actor networks, where asymmetrical power relations are a concern.

Arena A is where the design of work and systems takes place, Arena B where organizational frameworks for action are designed, and Arena C where the general legal and political framework is negotiated, i.e. the policy making arena (Gärtner and Wagner 1996). The arenas exist in parallel and influence each other and do not necessarily form a top down hierarchy (Elovaara 2004). This means that control, steering, etc. might come from any one of the arenas. It also indicates that the framework acknowledges that things happen in and between the arenas, whose borders are vague, and therefore might be crossed by actors involved. Every course of action conducted in the various arenas depends on sociomaterial relations (Suchman 2007). For instance, changes in legislation in Arena C have an impact on Arena A, but depending on the circumstances that must be dealt with at the arena, an adjusted version may be implemented. Following this, "... perhaps Arena A is also a space for resistance or re-negotiation of the ideas developed and worked out in arenas B and C" (Elovaara 2004 p. 133). The framework can also be interpreted as a plan for how responsibility for digital preservation could be spread, thus, a kind of instruction for future actions (Suchman 2007).

In Arena A the concrete work with (e.g.) improving workplace skills and working conditions takes place. The agenda of (re)designing work and technical systems involves issues such as skills, procedures, communication, and cooperation, but also dependency and automation (Gärtner and Wagner 1996). We argue that Arena A is the arena in which archivists are mostly acting in their day-to-day activities.

Negotiations concerning productivity and social agreements happen in Arena B and are conducted by actors that represent groups from both within and outside the organization. Participation is often indirect and conflicts are regulated in an institutionalized way. Arena B constitutes the location where conflicts are diagnosed, questioned, and redesigned or resolved (Gärtner and Wagner 1996). Arena B, therefore, is the arena where the management team of the organization mostly acts.

In Arena C negotiations of the general legal and political framework take place. This involves the establishment of culturally specific norms for work-related issues. This arena increasingly involves global spaces, since we live in a world where the flow of people, money, goods, information, and technical systems are becoming more and more common. Actors are not necessarily spatially and culturally close to one another and transnational regulations address domains of human practice (Gärtner and Wagner 1996). Arena C is where national policies and objectives are set, thus it can be regarded as the policy making arena.

We find the framework valuable since it illustrates how situated actions and improvisations are necessary in translations and negotiations of plans in concrete settings. The framework also brings out the issue of how to allocate and differentiate between different layers of responsibility and different

actors when organizing for digital preservation. The strength of the framework is that it illuminates the allocation of responsibilities.

#### **4. Method**

The empirical data were gathered in the context of a PhD project which aimed at exploring organizing for digital preservation, through focusing on how actors understand, experience and interpret the current situation. The data are drawn from a participant observation, a brainstorming session at a conference, a future workshop, a focus group interview and document analysis. The participant observation involved following an authority archivist in her daily work and provided a thorough understanding of an archivists' everyday work practices. This was carried out between April 2005 and June 2006, half a day, two days per month. The brainstorming session involved 34 participants at a conference for county council archivists and resulted in a rich picture of issues that were regarded as problematic by the conference participants. The future workshop (six archivists and one registrar) aimed at creating a proposal for changing archivists' current situation. It also provided support for the findings in the two earlier studies. The focus group interview involved three persons working at an existing e-archive; hence we could get an understanding of one possible way of organizing an e-archive. All 45 informants, which represents archivists from all over Sweden from authorities, municipalities and county councils in Sweden, are chosen based upon the fact that they are all involved in, and responsible for, archival matters at their respective organizations. Our interpretations of the empirical material are confirmed by the informants that, irrespective of each other, describe a coherent and concurrent view of their work situation. The data material was gathered by the first author.

The national policy documents analyzed were *Archival Issues*, (Prop. 2004/05:124), and the Swedish Government Official Reports *Archives for everyone – now and in the future*, (SOU 2002:78), and *Orderliness among official records* (SOU 2002:97). Prop. 2004/05:124 is about the importance of accessible archives, and the necessity that the National Archives strengthen this work. It also emphasizes the urgency of cooperation between archival authorities, and archival creator authorities in matters of digital preservation and the provision of digital information. SOU 2002:78, informally called the Archival investigation, was required to overlook archival issues with its main mission being to suggest measures which make use of IT that would make it easier for new groups to use archives and which would improve accessibility to the archives. SOU 2002:97 had as its mission to consider the purposefulness of the current split between the Secrecy Act (SFS 1980:100) and the Archives Act (1990:782), concerning registration of official records. New distinct and lucid regulations are needed for increasing insight in accordance with the principle of free access to official records (SFS 1949:105).

We explore how digital preservation is represented in archivists' stories and national policies using the framework presented in the previous section. The analysis was conducted by reading the empirical materials (transcriptions and policy documents) and mark up parts where responsibility and organizational matters are focussed. We examine and analyze how archivists and national policy documents talk/write or do not talk/write of archivists and plans for digital preservation. This way we explore how the responsibility for digital preservation is represented in various stories (Bacchi 1999). Carol Lee Bacchi (1999) is used to guide our reading of the empirical material.

#### **5. Arena A – responsibility in archivists day-to-day activities**

Arranging and describing archives, building processes around archival matters, planning records management, informing, supporting, and educating are activities involved in archivists' work practices. It involves knowing how to separate out different kinds of information, what constitutes an official record, and how long different records are expected to be preserved, and if and when appraisal can be done. The practice also includes providing requested records to citizens who ask for them. This is the responsibility assigned to archivists, and we will call this the practical responsibility.

Archivists have knowledge of archival theory and relevant archival laws and regulations (Runardotter 2007; 2009; Runardotter et al. 2007). In a paper-based environment their day-to-day work and responsibilities were rather clear. Today archivists navigate between old and new technologies, with a mix of paper-based and digital records, which makes their work situation rather chaotic (also observed by Barata and Cain 2001). Not least it takes more time: "It is hard to absorb and sort out news around technology and theory since we do not have the time" according to one archivist that attended the brainstorming session.

We argue that there exists an inherent paper-based view embedded in archival concepts, since they are developed when the paper-based archive was the only type of archive. Other personnel also connect archivists with paper: "It is taken for granted that we do not need [digital search tools]... 'they are used to search in paper'", was written on one note from the brainstorming session. But digital technologies changes things. One example is appraisal, which is the systematic methodology for selection of records of archival value. Today it is not possible to focus on master files or historical files as was possible with machine-readable records. The integrated nature of databases and complex systems undermines the notion of the uniqueness of a computer's ability to process and link. There is a need to formulate other appraisal criteria and introduce them into the design of computer systems.

In Swedish society (almost) everybody in the public administration area uses IT systems in their daily work. The difference between archivists and other occupational groups is that besides using IT, they are supposed to preserve information stored in digital media with the existing technology. Archivists simply do not know how to work with digital archives. In order to safeguard records many archivists print paper copies to assure that these will remain for the long-term. When the information to be preserved exists in a technology with which archivists feel unfamiliar, they no longer feel content that the information is trustworthy, authentic, reliable, or accessible in the future. The absence of a plan reinforces uncertainties. One county council archivist from the brainstorming session stated, "561 IT-systems and databases. No appraisal plans, no documentation and no plan of how to treat personal information." Situations like this demonstrate the importance of archivists being able to improvise in their every day practice. The archivists underscore the lack of a strategy – a plan – hence there is need for someone taking responsibility for the plan being developed and realized. We will call this strategic responsibility.

Digital technologies have created an unstable situation concerning digital archival matters; many official records such as web pages are lost. The archivists from all the different data gathering occasions – participant observation, a brainstorming session at a conference, a future workshop, a focus group interview – express insecurity regarding their professional role and competence. They were convinced that it requires cooperation to accomplish and secure digital preservation. Simultaneously, archivists claim that other involved occupational groups do not pay attention to digital preservation – one of the interviewed at the focus group interview explained that "systems are sometimes implemented without consideration of archival and preservation aspects." Hence there is lack of competency and knowledge on digital archives from two groups – involved occupational groups lack knowledge in archival practices, archivists lack knowledge in IT. As one archivist (that attended the brainstorming session) asked, "What competence in IT and digital preservation should archivists have?" Furthermore, new technologies seem to move the responsibility from archivists to other groups. Archivists have pointed out that as soon as information becomes digital, the responsibility is taken over by other occupational groups. "Archivists should only care for paper, is a common attitude," as the archivist from the participant observation expressed it. Hence, archivists are being marginalised when IT and digital records are on the agenda. Consequently there is a need for someone to take responsibility for the technical matters – the technological responsibility.

## **6. Arena B – responsibility in the organization**

The empirical material shows that most of the organizations do not have a plan for coping with preservation, they have not established cooperation around the matter, and the different responsibilities for digital preservation are unknown. Instead, the archivists gave the impression that they are alone in their struggle for digital preservation. This of course has consequences. One archivist from the brainstorming session stated, "Purchase of IT-systems has been strongly decentralized, which has resulted in a number of systems that cannot communicate." The archivists also claimed that many organizations have (too) many IT-systems, which is troublesome in general, but particularly problematic for archival purposes. In addition, the archivists claimed that many systems should be able to do more, which shows the lack of archival concerns when systems are bought or (re)designed. "Systems are bought and implemented without the archive knowing anything about it" claimed one archivist from the brainstorming session. These are aggravating aspects when trying to establish a collective, or practical, and technological responsibility for digital preservation.

Cooperation between different occupational groups around digital preservation is almost non-existent, and the archivists meant that archivists and IT-personnel cannot talk with each other, and even when they use the same words they mean different things. "IT-personnel run their own race without concern for archiving, preservation and appraisal," meant one archivist, and another argued that it is "difficult

with impact and attention for archivists' knowledge and competence." The archivists at the focus group conveyed the overall impression that when cooperation is established, the situation will change profoundly. In our interpretation this indicates that there is lack of strategic, managerial responsibility.

The archivists argue that most other occupational groups involved in records management neither have insight in archival matters nor do they see archives as carriers of memory. It is hard to ensure that the records management process runs smoothly and that personnel expected to conduct certain archiving tasks know exactly what to do. This could of course be equally true of paper-based records management processes as well and need not be dependent on IT, but the problem has been increasingly accentuated in relation to digital preservation. According to the observed authority archivist, there is no "coordinated or overall view regarding technology and activities" and another said that there is "No organization or technology (or competence) for how to receive digital archives." To be the only archivist in an organization with almost 1500 employees, as is the situation for the authority archivist, implies that engagement and interest, as well as support, from the management team are essential. This she experiences that she does not get. Hence, there is little or no awareness of the managerial and strategic responsibility for digital preservation in Arena B.

In short, archivists regard their organizations to be neither adapted nor prepared for digital preservation. The issue is not on the agenda yet. The responsibility issue is muddy – as illustrated by one archivist that attended the brainstorming session "... in my county council the responsibility for IT issues and long-term digital preservation is very unclear. Who owns the question?" (Runardotter 2007).

## **7. Arena C – policy making**

At Arena C, what view do the analyzed policy documents (Prop. 2004/05:124; SOU 2002:78; SOU 2002:97) convey concerning the responsibility for digital preservation?

The reports state that digital archives facilitate access of official records for citizens (SOU 2002:78). IT is regarded as a means that makes archival activities more efficient; it expands the overview of the archival material, and the work for accessibility of archival material must be strengthened (Prop. 2004/05:124). The management team should have the strategic responsibility to make sure that accessibility and insight into the authorities' affairs are not negatively affected by organizational changes or new technical solutions (SOU 2002:97).

At Arena C there is awareness of the lack of resources among archival creators, as identified in our interviews. In SOU 2002:78 it is argued that contemporary financial and personal resources are not adequate for archival authorities' needs which leads to shortcomings in the safeguarding of digital information produced within official administration today. In a longer term perspective there will arise new principles for how archives emerge, are administrated, and made accessible in the public sector (SOU 2002:78). The latter we interpret as referring to the practical responsibility, i.e. making archival material easily accessed and used.

In SOU 2002:78 it is stated that digital material puts greater demands on authority archivists. The use of IT raises the importance of taking measures in an earlier stage than paper, since it is not possible to organize digital material afterwards (SOU 2002:97). Further education for archivists is a precondition if digital archival material is to be managed and preserved in a purposeful, safe way. Archivists are regarded in need of competence in systems development, process analysis, and modelling.

In SOU 2002:97 it is stated that increased knowledge of regulations concerning the right to access official documents is needed. The report states that all personnel must have knowledge of archival regulations and be able to apply them in ordinary activities. It is obvious that it is authorities' management teams that are responsible for securing the impact of the principle of free access to official documents, and that the personnel has adequate knowledge – and uses it.

Concerning digital archiving, archival authorities must take part in development work, and cooperate with other archive creating authorities, libraries, museums, and other organizations, both public and private (Prop. 2004/05:124). The cooperation needs to revolve around development of methods and routines for digital archives and how digital material can be prepared for transfer to the archival authority (SOU 2002:78). In national policies the intention is to spread the technological responsibility

amongst several partners. However, this concern only applies on a societal level; the policies do not target intra-organizational responsibilities.

At Arena C digital preservation is an issue for everybody. The Swedish National Archives and the Ministry of Education, Research and Culture cannot alone handle the matter. Instead the question must be observed by all ministries and be defined as a concern for the entire official administration (SOU 2002:78). There is a need for planning and preservation strategies that are synchronized with eGovernment. Common standards and norms for archives are regarded to secure the coherent eGovernment. It is argued in SOU 2002:78 that to bring forth these standards and norms is the responsibility of a supervisory authority, and archives are regarded as fundamental, if Sweden is to live up to its intentions for eGovernment.

Hence, in national policy documents, plans are found. They include strengthened accessibility to archival material, education for archivists, specialized archivists, increased knowledge about regulations among all concerned personnel; cooperation at national level among archival authorities and archival creating authorities; and a common infrastructure.

## 8. Discussion

In this section we discuss the archivists' stories, national policies and different representations of responsibility for digital preservation. The empirical material stems from 45 persons participating in digital preservation at their organization, mainly archivists. They represent governmental authorities, that is organizations that are obliged to preserve records by Swedish law, from all over Sweden. Considering their description and conveyance of a similar interpretation of their situation, we feel confident that our conclusions are valid and applicable to many organizations in Sweden. Nonetheless, our empirical data has been gathered at occasions when digital preservation was on the agenda, hence all of the informants were focussed on this problem when answering our questions.

The section is divided into the following themes: preservation strategies, two different views of archivists (as keeper and facilitator), the relation between archivists, IT and systems design, and lastly, matters of cooperation and coordination.

### 8.1 Preservation strategies

The consequences of not paying attention to archival matters and digital preservation are not understood in organizations. Archivists and policy documents place the strategic responsibility with the management teams and state that they should be involved in and accomplish (parts of) the preservation strategies. This does not mean that archivists and IT personnel should be left out of the development and implementation of strategic issues, instead cooperation is necessary. Part of the strategic responsibility is to make sure that the organization has a plan for digital preservation. In SOU 2002:97 this responsibility is placed with the management team, they should assert that the organisation secure access to official records. As part of this responsibility, the management team should pay attention to digital preservation and the planning around the same, as it is an important aspect in the building of eGovernment and to offer good governance.

### 8.2 Archivists: Keepers or facilitators?

Digital technologies have changed archivists' work practices. Stable and certain routines are replaced by fluidity and uncertainties. In the stable preservation environment it was possible to act as a keeper. The dynamics and openness made possible by digital technologies opens up new archival practices in which archivists can act as facilitator. We use the term keeper as a definition of a paper-based view of archivists as expected to solely retain archival material, a view that lacks the understanding of the impact of IT and possibilities that IT brings along. By facilitator we refer to a view influenced by the impact of IT and a view of archivists as holding the intellectual control over (analogue and digital) archival material, and acting as mediators, hence facilitating people's access to this material (Cook 1997). Facilitator should be interpreted as an extension, keeper is inherent in facilitator.

Archivists know archiving by heart and also what is expected of them – an example of their embodied and situated knowledge (Haraway 1991; Jansson, Mörtberg and Berg 2007). The transformation process towards digitization has impacted on their day-to-day practice, but some still identify themselves as keepers, probably due to a tendency to think in a paper based way. More importantly, other personnel still regard archivists as keepers – keepers of paper-based, analogue, media.

Consequently, archivists are not able to make a difference in their organizations. The dominant discourse in national policies has in many ways already replaced archivists with technologies. Hence, IT has replaced archivists as carrier of evidence of organizational transactions and the societal memory. In most organisations there is hardly any awareness on how IT has replaced archivists as keepers. This change in relation to archivists' professional core has not really been put to the fore, nor affected that much – maybe it will be more obvious in the future when people's needs for records and documents are accessible or searchable from home through their computers.

Summing up, we find that the view on archivists is somewhat blurred. At the present stage the view of archivists as keepers dominates, but it is also obvious that there is a simultaneous wish to change this view of the archivists to one of facilitators. However, the most important question is whether or not to focus on the future, that is, whether archives should be closed or opened (Menne-Haritz 2001). When this is established, the archivists' role will change accordingly, since closed archives can suffice with a keeper, while an open archive functions best with a facilitator.

### **8.3 Archivists, IT and systems design**

At Arena B many organizations have only begun to realize the importance of (re)designing their archives. They are not aware of the inoperability of IT-systems (Contini and Lanzara 2009). We conclude that among management teams there is little awareness of the implications digital preservation brings along. We also state that to get digital preservation to work in practice, cooperation and coordination between different actors, such as archivists, IT personnel, and managers are required. This takes place in the entanglement between e- and government (Mörtberg and Elovaara 2010).

Based on our empirical material we find that archivists are engaged and willing to take part in systems design, but they experience that IT-personnel act as gatekeepers that do not 'let them in.' Both parties express the view that the others "are not possible to talk with." Whilst archivists are troubled over the situation, IT-personnel are more silent. An explanation could be that IT-personnel have a stronger belief in technology and are less worried that the problems of today will not be solved (see Horrocks (2009) for a discussion of how IT experts have influenced the public sector).

This shows that organizations do not realize the need for a common effort in digital preservation and they do not secure that their systems are prepared for and contain all the information needed in order to safeguard organizational evidence and societal memory. In the words of Bødker et al. (2004 p. 140), "Good IT design requires knowledge of work practices in order to determine which company traditions are fundamental and sustainable, and which are outdated". Further, the possibility for mutual learning between IT designers and archivists is neglected.

In the policy making Arena C the underlying message is that archivists should be more active – and educated – in systems design (SOU 2002:78). Exactly what archivists should be educated in is not stated and can of course be discussed. Systems design involves many different things. We argue that a systems perspective is fundamental, since digital material changes the work processes. Archivists need not be system designers, nor programming experts, however, to be involved in the process is necessary (Bødker et al. 2004). This is in order not to jeopardise development of digital preservation and to avoid the risk that complex archival procedures will be simplified in the translation to technologies (Kallinikos 2009).

IT-departments/personnel are neither explicitly mentioned nor included when it comes to digital preservation in the national policy documents. The general statement is that everybody should be included – i.e., citizens should have access to easily accessed search tools – but concerning the actual work for digital preservation, IT-personnel are not mentioned. It is important to note that archival authorities with a supervisory role, such as the Swedish National Archives, have their own IT-departments. The policy documents analyzed in this paper probably rest on an implicit presupposition that the Swedish National Archives covers the systems design and technology aspects.

### **8.4 Cooperation and coordination**

It seems that archivists today take the practical responsibility, try to pursue the strategic responsibility, and worry about the technological responsibility. We question whether it is adequate to place the entire responsibility for digital preservation on one professional group; archivists, since digital material

is created and kept within a technology which is built up and based on decisions that are out of reach for the archivists and which is not part of archivists' traditional competence (Runardotter 2007; 2009; Runardotter et al. 2007). On the other hand, transformation creates new professional challenges (Mörtberg and Elovaara 2010).

What if the responsibility for digital preservation is spread and shared among archivists and IT personnel? What are the implications of this? The most burning questions for archivists today are perhaps what competence and what knowledge would they envisage for the future. Is it adequate to ask whether archivists should 'give away' all their knowledge and competence to an IT system (Elovaara et al. 2006)? Another issue is the tendency to simplify complex administrative practices in the design of IT systems and services (Kallinikos 2009). Automation is a risk insofar that when people's work tasks are replaced by IT, it is uncertain what is left for the humans.

We argue that to get digital preservation to work, coordination and cooperation between different actors are needed. The responsibility must be spread. However, both archivists and national policies place the strategic responsibility with the management team. Hence, it is not the archivists' responsibility to establish cooperation around the matter of responsibility for digital preservation (SFS 1990:782).

There is need of a resource for action, that is, a plan (Suchman 2007). The archivists witnessed that their activities, as situated in their everyday work, rely on *ad hoc* improvisations, and this has so far governed the preservation of much of the digital material. The question is if this is sustainable in the future?

Through our analysis we find that layers of responsibility exist and various actors take and have different kinds of responsibility. For instance, the strategic responsibility should be found at Arena B, where management teams mostly act, not least since they are assigned to take this kind of responsibility from Arena C (national). Archivists practical responsibility is more related to day-to-day activities such as to make sure that the 'right' records are preserved in the right way, that records are easily accessible, etc. – it is this, together with the IT personnel that are responsible for the technology, that holds the records. And of course, every organization must find their appropriate solution.

## 9. Conclusions

This paper has focused on how plans for and layers of responsibility for digital preservation are configured and reconfigured in archivists' stories and national policy documents. This responsibility must be fulfilled in order to avoid losing the societal memory and the cultural heritage. Our conclusions are as follows.

An overarching plan for the organizational work involved in digital preservation is rare. Archivists are rather alone to deal with all the different information systems in their organizations. At the same time their agencies and their influence is limited. This is contrary both to archivists own will, and to Swedish national policies. Too often it is solely archivists that are held responsible for digital preservation, a situation which jeopardizes the same, risking the loss of societal memory. The identified responsibilities – practical, technological, and strategic – are mostly found on the local arena, and do not embrace management teams and IT departments to a satisfying degree.

Cooperation, coordination, and communication around digital preservation are missing in organizations. To make this work is essential if our society is to safeguard the societal memory, and the cultural heritage. In line with the national policy documents as well as legislation, we have made visible the necessity that managers aim at good governance and realize their strategic responsibility, create a plan for preservation, and create preconditions for the establishment of a cooperative and coordinated diffusion of the responsibility for digital preservation. The reasons for this are the interplay between various actors: archivists know archival procedures and practice (practical responsibility), IT personnel know the technology (technological responsibility), and managers actually hold the ultimate, strategic responsibility because of their organizational position. This would also answer the need for mutual learning, in line with PD principles. Therefore, we suggest PD as the approach during the implementation and maintenance of eGovernment, as well as when creating an e-archive and working out a plan for digital preservation. The different kinds of responsibility, which we have called

strategic, practical, and technological, must be planned for, defined, and assigned to involved actors. It is of utmost importance if the organization wants to conduct good governance.

A view of archivists as keepers moving towards facilitators can also be discerned. This view is conveyed both by archivists themselves, as well as in national policy documents. However, the view is unclear – the interviewed archivists are ready, but in order to become a facilitator, archivists must actively participate in the design and implementation of IT to avoid the simplification of complex archival routines and procedures. This is not yet so in most organizations. They also need knowledge in IT in order to be able to offer innovative ways of opening up accessibility to public records without transgressing laws and regulations. To what degree the archivists have changed their practice is not possible to say – it is however clear that many archivists are aware of the challenges, and eager to learn new ways. In any event, the archivist's position in organisations is to a high degree dependent upon what strategy or plan an organization develops. It is important to reflect upon the fact that IT can replace functions and work tasks that are now undertaken by the archivists. If this happens archivists' daily practices will be further affected.

We have also discerned an issue for which the policy making Arena C should shoulder its responsibility – they must make certain that respect for laws and regulations is maintained. This could facilitate the entire gamut of work with e-archives and digital preservation.

Digital preservation concerns everyone who has access to a computer and thereby has created digital records and this makes it significant for those involved in management and IT use in complex organizations and in organizing day-to-day work. Understanding this issue may help executives to develop concepts and frameworks that address the IT-related challenges of leading increasingly dynamic, global, and information-intensive organizations. How responsibility is delegated influences actors' ability to make a difference and thus matters of power and power relations are involved. Last, but not least, it concerns IS designers, archivists, records managers and researchers, and ultimately citizens who want to access the material.

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