CLASH!
– THE OPEN DATA POLICY MEETS AN ORGANIZATIONAL CONTEXT

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Abstract

In this paper we explore the on-going implementation of the Public Sector Information (PSI) directive in the Swedish National Archives. The directive is in line with current trends of opening up data for re-use, innovations and new digital services. The PSI directive has applied since 2003; the process of implementation is still, however, on-going, more or less successfully. We focus on the policy implementation process and analyse and discuss reasons why this process can be time-consuming and as a result, also delayed. Our findings build on research from a case study consisting of two projects that focussed on creating digital services based on archival material. We use a sociotechnical perspective as an analytical lens, and reason that the open data initiative clashes with the professional culture among archivists and the organizational culture found in archives. The mission of an organization is reflected in its professional and organizational culture, and when these cultures (with related values, behaviours, artefacts and functions) are not in line with the intentions in a policy, the members of the organization need to reach a common understanding before a successful policy implementation can take place.

Keywords: professional culture, organizational culture, open innovation, open data, policy implementation

1. Introduction

Today's Europe shows an emerging trend among private and public authorities to open up borders and resources with the objective of stimulating organizational and societal growth through innovation (Feller, Finnegan, & Nilsson, 2011; Janssen, Charalabidis, & Zuiderwijk, 2012; Poikola, Kola, & Hintikka, 2011). Open data is a recently used concept in the initiative to transform the delivery of digital services

among public authorities (Lathrop & Ruma, 2010). Accordingly, open data has received significant attention from businesses, policymakers and authorities over the last couple of years. The ideas are globally spread and public sector organizations are actively working on implementing policies for opening up data.

In Europe, the Public Sector Information (PSI) directive defines a high level framework for how, what and when public sector information should be open for re-use by citizens. The European Commission (EC) foresees that open data will a) contribute to transparency of democracy and administration in public authorities, b) increase business competitiveness, c) create economic opportunities through innovation and growth, d) help to tackle societal and environmental challenges, and e) increase scientific progress (PSI DIRECTIVE 2003/98/EC, 2003; PSI DIRECTIVE 2013/37/EU, 2013). The PSI directive has been updated to further open up the market for services based on public sector information (COM (2011) 877 final, 2011; PSI DIRECTIVE 2013/37/EU, 2013) by including new bodies (the cultural heritage sector, i.e. archives, libraries and museums), limiting fees, introducing independent oversight of re-use rules, and making machine-readable formats the norm.

The PSI directive leads to several implications for the cultural heritage sector. Archives are now expected to open up, letting the material "out" and the citizens "in" in a more innovative way than has been expected so far (COM (2011) 877 final, 2011; COM (2011) 882 final, 2011; PSI DIRECTIVE 2003/98/EC, 2003; PSI DIRECTIVE 2013/37/EU, 2013). The initiatives that concern the cultural heritage sector aim at the "widest possible use of digitized cultural material and the related metadata" (COM (2011) 882 final, 2011). However, open data strategies are relatively new, and the exact impacts and benefits of open data still remain unclear (Bannister & Connolly, 2014; Conradie, Mulder, & Choenni, 2012; Huijboom & Van den Broek, 2011; Zhang, Xu, & Xiao, 2014). As Huijboom and Van den Broek (2011) observe, questions still debated are, for example, what open data strategy is appropriate for governments and why some governments are succeeding while others are struggling.

Barry and Bannister (2014) state that a great deal is reported on the benefits (proven or claimed) of open data and open government, while less research concerns barriers. However, several researchers (Barry & Bannister, 2014; Halonen, 2012; Huijboom & Van den Broek, 2011) have identified obstacles related to the open data initiative. Government bodies also acknowledge this (SOU 2014:10, 2014). Barry and Bannister (2014) report from a literature review on transparency, openness and open data, and distinguish a range of barriers. Most of the barriers identified concern the adoption of open data and open government, while few barriers can be related to the release of open data.

The obstacles can be categorized in different ways, ranging from broad categories such as a) technological, b) organizational and c) legal and policy-related barriers, to more focussed areas such as a) fragmentation of data, b) lack of access to data, c) lack of interoperability and d) difficulties in processing the data (Barry & Bannister, 2014). Obstacles can also be related to more social aspects such as people, procedures and laws, as well as the lack of resources and lack of knowledge. Social obstacles are also e.g. not being aware of end-users needs, unwillingness to publish data, uncertainty of how the data will be used, and whether end-users interpret the open data and its context correctly (Zuiderwijk & Janssen, 2014). When it comes to archives, the challenges can range from digitizing their analogue material, creating common policies around objectives, strategies and methods, via technical infrastructures and interoperability issues to administrative, organizational, and social challenges (Runardotter, 2011a). Due to the newness of the open data initiative, there

are many issues that need to be researched and understood in greater depth to fully harvest the potential of open data. The challenges identified are often of a technical character, and are described in general terms, thus, few insights and little guidance are offered on how to deal with the implementation of open data policies in different organizational contexts. Accordingly, there is little research on the realization of open data and influential factors stemming from the organisation. Since open data processes are hindered by technical as well as social barriers, both types of influential factors need to be understood in order to realize the benefits of open data (Zuiderwijk & Janssen, 2014). Hence, in this paper, we propose that difficulties emerging in the implementation process of the open data policy could stem from the discrepancy between the aims and objectives of the policy and the implementation context. For the purposes of this paper, we will shed light on obstacles that emerge during the implementation of the open data policy from a socio-technical perspective, focusing on the social aspects. Accordingly, the research questions we seek to answer are:

What, in an organizational context, influences an open data policy implementation process? What implications can be drawn from this?

We describe a case study consisting of two related R&D projects focusing on Citizen-Centric eGovernment Services[1] so as to illustrate the influence of the organizational context, and the importance of understanding this when implementing a new policy. The theoretical framework used to analyse the case study in this paper relates to a focus on understanding barriers regarding policy implementation in its context and draws from a number of sources, in particular socio-technical perspectives. The two projects constituting this case had a focus on opening up the archives digitally to support the implementation of the PSI directive.

We will provide our findings regarding the organizational context and its influence on an open data policy implementation process with examples from a public authority, the Swedish National Archives.

The remainder of this paper is structured as follows: first, we provide an account of open data policies and organizational context related issues, and then we describe our method. This is followed by a description of the case that triggered our interest before moving on to discuss our findings. The paper ends with some concluding remarks.

2. Open Data Policies and Organizational Context

In this section, we provide an account of the two main themes in the paper, namely open data policies and organizational context.

2.1. Open Data Policies

Originally, the PSI directive set out the general legislative framework at European level in 2003. In the review in 2009, the EC stated that, in spite of progress, there were still barriers to the cross-border use of public sector information (COM (2011) 882 final, 2011). The EC also noted that some barriers could be tackled within the existing legislation, while others could not. The PSI directive has been updated to

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[1] VINNOVA, together with NordForsk, the Icelandic Centre for Research (RANNIS) and the Estonian Ministry for Economic Affairs and Communications, administered the call for the proposal for Citizen-Centric eGovernment Services. The purpose of the call was to contribute to successful new cooperation models, organizational solutions and digitised service supplies in the field of e-government, working on the basis of users´ needs and participation by establishing research and innovation (R&I) networks. (Accessed from http://www.vinnova.se/sv/Ansoka-och-rapportera/Utlysningar/Effekta/Citizen-Centric-eGovernment-Services/ [2015-08-14])

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further open up the market for services based on public sector information (COM (2011) 877 final, 2011; COM (2011) 882 final, 2011; PSI DIRECTIVE 2003/98/EC, 2003; Vickery, 2011), now including the cultural heritage sector, which comprises archives, libraries and museums.

The PSI directive is in line with policy goals such as increased productivity and improved effectiveness, efficiency, information quality, interaction mechanisms, better governance tools, and the advancement of government coordination and collaboration (Andersen, Grönlund, Moe, & Sein, 2005; Andersen, 2006; Gauld, Gray, & McComb, 2009; Grönlund & Ranerup, 2001; Lathrop & Ruma, 2010; Sefyrin & Mörtberg, 2009). Openness is thus expected to facilitate democratic processes and the knowledge society in addition to innovation and development of new or improved digital services. However, what is aimed for by open data has hitherto implicitly addressed data and information produced in daily administrative processes. A strong focus has been on transparency (COM (2011) 877 final, 2011; COM (2011) 882 final, 2011; PSI DIRECTIVE 2003/98/EC, 2003; PSI DIRECTIVE 2013/37/EU, 2013; Vickery, 2011). Hence, the open data policy with all its expected benefits constitutes a policy that to a high degree requires changes in how an organization functions and works.

Memory institutions have two kinds of data that can be open: 'administrative data' and 'archival collection data', of which the latter constitutes their *raison d'être*. There is thus an important distinction between data produced by an authority in its daily work and data held in memory institutions. In Sweden, archival collection data has always been more or less 'open' – any citizen can visit the memory institution and access the material.

'Open data' denotes that data should be freely available for anyone to use and republish, principally without any restrictions other than European and national privacy legislation. The fundamental message conveyed by the revised PSI directive is that governmental agencies should make use of open data policies, thereby making data available for re-use by businesses, researchers and developers (PSI DIRECTIVE 2013/37/EU, 2013). The EC expresses its support for open data as follows:

- Public data has significant potential for re-use in new products and services;
- Societal challenges – having more data openly available will help us discover new and innovative solutions;
- Efficiency gains through sharing data inside and between public administrations;
- Fostering participation of citizens in political and social life and increasing transparency of government.[2]

The policies of what to achieve are clear, but how to actually implement open data, and what strategy to use are less obvious. Huijboom and Van den Broek (2011) have compared open data strategies in Australia, Denmark, Spain, the United Kingdom and the United States. In line with the PSI directive's intentions, these countries aim at increasing democracy and political participation, fostering service and product innovations, and strengthening law enforcement. To do this, they make use of education/training, voluntary approaches, economic instruments and legislation. However, the level of detail in the strategies differs greatly, where the United Kingdom has successfully described concrete open data principles. Huijboom and Van den Broek's (2011) findings suggest that the drivers for open data are

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[2] http://ec.europa.eu/digital-agenda/en/open-data-0

predominantly found outside government, whereas the barriers can be found within the government organizations, and in this paper our endeavour is to shed light on these.

Halonen (2012), who has analysed the United Kingdom case specifically, argues in favour of strong leadership within organizations; clear guidelines, strong institutional basis and a comprehensive licensing framework for opening up datasets. He states that "the level of knowledge and understanding of open data is currently rather low, and most data producers don't yet see the potential benefits that lie in open data" (p. 10). This indicates that a lack of understanding was a barrier at this time. Since open data only has value in use, Halonen (2012) suggests the following as motivations for a strategy: a) Provide more education on the data society; b) Further engage those who are already empowered; c) Encourage third-party sites and initiatives; d) Do not focus initially on any particular type of data, but try to release it all. Halonen (2012) concludes that expectations of the positive social impacts of open data have so far been overly optimistic.

The Swedish e-delegation, a committee under the Ministry of Enterprise, Energy and Communications, was appointed to support and promote the work of public authorities with e-administration, social media, and the PSI directive. As such, the e-delegation conducts and carries out pre-studies and projects, explores interoperability issues, creates guidelines, policies and follow-up studies on public authorities' work with e-administration. Its aim is to contribute to more sources of information being made easily accessible and the regulations for re-use being as clear and coherent as possible (E-delegationen, 2013b). Accordingly, the guidelines provide recommendations on how an authority should work to actively facilitate re-use of information. The recommendations concern not only what kind of information should be open for re-use, but also how this will take place. The guidelines build on the same arguments and incentives as the PSI directive, and are in line with the Swedish Act on the re-use of public information (SFS 2010:566, 2010).

Swedish policies are thus connected to the PSI directive: the Swedish governmental directive states that public administrative e-services should be based on open standards and open sources in order to avoid dependence on specific platforms and solutions (E-delegationen, 2013a). A distinction is, however, made: the E-delegations guidelines are not aimed at open data, whereas the recommendations can be realised by the provision of open data (E-delegationen, 2013b). Moreover, in Sweden many references are made to the Freedom of the Press Act (SFS 1949:105, 1949) based on the argument that openness is what distinguishes Swedish society.

If the open data initiative fulfils expectations, it will contribute to a collaborative culture, making possible both discovery and analysis of digital cultural objects to an extent not possible today (Pattuelli, Weller, & Szablya, 2011). For this to happen, Halonen (2012) calls for an increase in user-driven policies, since the inherent value of openness lies in its promotion of co-operation amongst individuals from diverse backgrounds. In line with this, Conradie, Mulder and Choenni (2012) elaborate on and apply the paradigm of co-creation and participation to stimulate the release of PSI by local government. Their findings suggest that involving many partners in the early phases helps place the open data policy on the agenda at the local level.

Opening up data should also involve focusing on things other than technology, so when starting an open data initiative "one should keep users, methods and learning possibilities in mind right from the start." (Poikola et al., 2011) From this it follows that open data is not a goal in itself. Instead, it is a means of and a precondition for reaching other objectives as expressed by the EC. For the cultural heritage sector, it

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can lead to new ways of opening up archival collections, facilitating easy connection between archival collection data sets to other organizations' datasets, and thereby giving citizens the possibility to use archival collection data in new applications.

2.2. On Organizational Context

In this paper, we analyse our data influenced by a socio-technical design perspective. As mentioned earlier, the open data phenomenon has mainly been researched from a technical point of view, as often is the case when new technologies arise. Our intention is to raise awareness of social aspects, since these also influences a policy implementation process. The socio-technical school, which has its origins back in the 1950s, was during the 1970s developed with the human aspects in mind (Mumford, 2006). In the beginning, socio-technical design was mainly viewed as a means for improving the capabilities of humans and connecting these with new technologies new ways. Leading principles were flexibility and intellectual growth, suggesting that individuals and groups can reorganize and redevelop to meet new challenges in a changing context (Mumford, 2000).

The socio-technical approach strives to humanize work and democracy at work. The objective is "the joint optimization of the social and technical systems" which indicates that human needs must be taken into consideration when technical systems are developed, and that the social and the technical should be given equal weight (Mumford, 2000). One of the first concepts adopted by socio-technical researchers was the notion of open system, a concept which put forward the fact that every socio-technical system exists in a context that influences the way it behaves (Mumford, 2006). In socio-technical design, the notion of open system considers technical structures and work roles as two systems that are part of one system, and as a researcher, it is important to consider both. Thus, the relationship between the two systems, as well as between them and the outside context, should be analysed. The most important contribution a socio-technical approach brings is its value system, whose message is that, regardless of technology and organizational structures change, the rights and needs of the employees must be given as high a priority as those of the non-human parts of the system (Mumford, 2006).

Part of the organizational context is the professional and organizational culture. For archivists, the professional culture is influenced by the Code of Ethics, as formulated by the International Council on Archives (ICA). It is formulated as 10 principles to which archivists (defined as those concerned with the control, care, custody, preservation and administration of archives) should adhere, in order to achieve high standards of conduct. According to the Code, archivists are supposed to;
- protect the integrity of archival material,
- appraise, select and maintain archival material in its historical, legal and administrative context,
- protect the authenticity of documents during archival processing, preservation and use,
- ensure the continuing accessibility and intelligibility of archival materials,
- record and be able to justify their actions on archival material,
- promote the widest possible access to archival material,
- respect both access and privacy, and act within the boundaries of relevant legislation,
- use the special trust given to them in the general interest,

- pursue professional excellence by systematically and continuously updating their archival knowledge, and sharing the results of their research and experience,
- promote the preservation and use of the world's documentary heritage, through working co-operatively with the members of their own and other professions (ICA, 1996; Lindh, 1998).

Organizational culture is defined as the deeply rooted values, norms and beliefs that are shared by the people working in an organization (Herzog, 2011; Martins & Terblanche, 2003). As such, organizational culture can be seen as the social glue that holds the members of the organization together and creates a feeling of belonging. The values are seen as the deepest representation of the organizational culture and are upheld by individuals, and as such constitute the characteristics of a group of professionals (Herzog, 2011). In this way, the professional and organizational culture interacts. Values and actions are also mutually interrelated. Although no exact description of this interrelationship exists (Aadland, 2010), it is acknowledged that an individual's actions are influenced by their values and vice versa.

Thus, professional and organizational culture includes aspects such as behavioural patterns, attitudes, norms, and artefacts such as rituals and ceremonies, stories, arrangements and language. The cultures can be discerned in the myths, rituals, stories, legends and language that an organization has and are envisioned in the practices undertaken by the organization (Cheung, Wong, & Lam, 2012; Herzog, 2011). Behavioural norms represent the expectations that are related to the behaviour or its expected results, which are shared by a social group. These norms can take the form of social principles, goals, philosophies, and standards that define attitude and legitimate specific behaviour in the organization.

Regardless of the prevailing culture, Cheung, Wong and Lam (2012) state that it has four functions for an organization: first, it provides a sense of identity for the members of the organization; second, it facilitates the generation of commitment among its members; third, it enhances the stability of the system; and fourth, it serves as a sense-making device that guides and shapes the behaviour of its members.

(Naranjo, Jiménez-Jiménez, & Sanz-Valle, 2011) have studied the effect of culture on innovation, to investigate whether organizational culture fosters or inhibits organizational strategies of innovation (being a pioneer) or imitation (being a follower). They found that organizational culture is a clear determinant of innovation strategies – an organization distinguished by a development culture is more prone to adopt innovation strategies, while hierarchical cultures rely on strategies turned towards imitation. However, they argue that "the relationship between culture and innovation/imitation is more complex than the literature suggests" (Naranjo et al., 2011). Based on this, it can be expected that organizational culture also influences an organization's possibilities to adopt new directives and strategies. Previous research has also shown that there are clear relationships between organizational culture and performance, especially if the organization is innovation- and reward-oriented (Cheung et al., 2012).

In this paper, the organization we are referring to is a public authority. Traditionally, organizations of this type have some common characteristics such as rational rules and procedures, structured hierarchies, formalized decision-making processes and advancement based on administrative expertise (Parker & Bradley, 2000). They have also been subject to political control rather than market control and are thus influenced by underlying political ideologies. This puts them in a position where they cannot be equated with productive activities in the private sector. Due to

this tradition, public authorities are often viewed as less prone to respond positively to new requirements such as volatility and virtuality (Kellogg, Orlikowski, & Yates, 2006). Today, these organizations are to open up their processes and strategies, making it important for them to handle the expectations of shifting control mechanisms. They need to become more market-oriented, meet increased competition and become more responsive to the changing economic environment (Kellogg et al., 2006; Parker & Bradley, 2000).

Herzog (2011) highlights the importance of employees' personalities and the important role that management plays in influencing the prevailing culture in the organization. To foster a more open culture in which both internal as well as external ideas are used, managers need to facilitate cultural change and introduce a new way of thinking in addition to motivating their employees. For this, they must have clear mandates. Herzog (2011) argues that organizations aiming to adopt a more open and innovative approach need to take more risks. They might also need to reconsider what 'value' stands for in the organization, and how this value can be captured. In turn, this implies that the organization might need to alter its mentality and culture (Giannopoulou, Yström, & Ollila, 2011). In the process of opening up, the organization also needs to be responsive to exploration and exploitation needs by adopting a flexible and professional mentality (Vanhaverbeke, Van de Vrande, & Chesbrough, 2008).

The expectation to open up organizations has led to a situation where many organizations strive to achieve a balance between closed and open approaches – too much openness can impact the organization's success negatively due to a loss of control (Enkel, Gassmann, & Chesbrough, 2009), and closed approaches might not support the increasing demand to innovate, also for public sector organizations (Ovseiko & Buchan, 2012; Poikola et al., 2011). Important to note is that an organization can adopt an approach along a continuum from closed to open; it need not be an "all or nothing" approach (Buganza & Verganti, 2006). When the endeavour is to open up, the implementation of an open approach must also be supported by the transformation of organizational processes. This is usually done by adding an open perspective on top of existing processes instead of creating radically new ones (Feller et al., 2011). Opening up organizational processes is also, to some extent, an individual pursuit, since the implementation of an open approach is dependent on the people within the organization. It is they who define the degree of openness to embrace (Giannopoulou et al., 2011).

To summarize, an organization's ability to adopt a new approach is influenced by characteristics such as culture and structures, technological infrastructure and context (Gianiodis, Ellis, & Secchi, 2010). According to Parker and Bradley (2000), cultures are of vital importance when implementing change processes. Furthermore, awareness of the culture provides a foundation for explaining and assessing the appropriateness and outcome of the policy to be implemented (Parker & Bradley, 2000).

3. Case Study Method

In this project, we use a single case as a basis for identifying the implications of adoption barriers in the PSI directive. Our approach is related to an interpretive stance from which the rationality of the extrapolation from one case depends not on the representativeness of the case as such in a statistical sense, but on the believability and strength of the logical reasoning used in describing the results from the case, and in identifying implications and conclusions based on the results (Walsham, 2006). The choice of a case study method is mainly based on the circumstance that our research

focus is of an exploratory character and will report on real-life experiences from a change project within the public sector. Through this case approach, new ideas and new lines of reasoning and finding opportunities, challenges and issues facing managers can be detected (Dubé & Paré, 2003). Hence, due to the richness and flexibility that the case approach offers, complex phenomena such as organizational context and policy implementation can be understood. In interpretive case studies, seeking meaning in the context requires an understanding of the social context and the history of the organization (Klein & Myers, 1999).

As Orlikowski and Baroudi (1991) argue, an interpretive analysis is conducted and understood within a theoretical framework. Theories are thus used as a "sensitizing device" (Klein & Myers, 1999) to view the world in a certain way, which in this case study is to ascertain how organizational culture might influence adoption of the open data policy. To support our analysis and understanding, we have used the socio-technical perspective, adding theory on professional and organizational culture. When using theories as a guide, there is also a risk that the researcher only sees what the theory highlights, and new insights and avenues for exploration might thus be lost (Walsham, 1995). To reduce the likelihood of this, we have analysed and reflected on our case in two different ways, both reflecting in action and reflecting on action. The case study reported on here consists of two research projects carried out with the overarching objective of supporting the development of citizen-centric services based on open archival data to support crowdsourcing. In both projects, the underlying question was how to develop citizen-centric services based on open archival data with an action design research approach.

The paper thus describes our interpretations and reflections on a process from a retrospective perspective. 'Reflections' refers to the cognitive and affective processes that usually take place once the overall task or part of the task has been completed (Lavoué, Molinari, Prié, & Khezami, 2015). The overarching focus of our reflections was the question of why archival personnel did not easily embrace the idea of creating open data and opening up archives for citizens to use open data, add and comment on the information. As such, during the on-going project we conducted our reflections-in-actions, in line with the reflection-in-action approach as described by Schön (1991). Reflection should here be understood as analysing the conditions for what took place in the projects (Alvesson & Sköldberg, 2000). Evidence from case studies can come in many different forms, such as documents, archival records, interviews, direct observations, participant observations and physical artefacts (Walsham, 1995). In our case, we have used documents, participant observations, artefacts (IT-system demonstrators and archival material) and project documentation as our main data sources. We have mainly focused on the participant observations and the discussions that took place during the projects carried out within our case. As such, it is both the content of the discussions that took place in the projects, and the fact that there were discussions around PSI, open data and crowdsourcing (as a means of developing open data) that was of interest.

The empirical materials for our case were gathered from two connected projects and consist of observations made during project meetings and discussions, and also analysis of various project documents (project descriptions, project plans, meeting notes and e-mail conversations), collected from January 2010 until April 2014. The data also involves frequent visits to the two field sites over an extended period of time, as suggested by Walsham (1995). In addition, one of the authors has a history of research in collaboration with the cultural heritage sector, and is well acquainted with the archival context, e.g. (Runardotter, 2009; Runardotter, Mörtberg, &

Mirijamdotter, 2011; Runardotter, 2011b). Thus, to avoid misinterpretations and eventual prejudices, we analysed the case individually and then compared our analyses in order to reach a common interpretation of the case. An interview was also held with the current Director-General of the National Archives.

Based on trends and expressions that were observed during meetings and in the project documents that were collected during the extension of our case, the endeavour was to interpret the events and expressions on the basis of our theoretical framework. We have analysed the case iteratively, starting with an analysis of the case data in relation to opening up the archives and thus implementing the PSI directive. We then analysed the different expressions, documents, traditions, norms, and actions, seeking an explanation with a socio-technical lens. Hence, the theories constitute part of an iterative process between data analysis and the theory (Walsham, 1995). In this process, we identified the following themes: Identity discrepancy, Internal policies, Policies from above, Values and norms, and Technical solutions. These themes are discussed in Chapter 5, where we, based on our findings, developed implications that can be used as guidance for policy implementers in cultures similar to the one in our case.

4. Description of the Case

The Swedish National Archives (SNA) was officially founded in 1618, which makes it one of the oldest Swedish authorities. As such, SNA has built up its organizational culture over several centuries. The Swedish National Archives are a regulatory governmental authority with a nationwide responsibility. SNA has its head office in Stockholm, and employs around 600 persons. It is run by a Director-General who holds the position for a period of 6 years.

The archives' mission is to secure the long-term existence of collections, and involves preserving, taking care of, and making accessible archival materials for current and future generations (Cook, 1997). The intention is to protect the societal memory and guarantee information needs for jurisdiction and governance in a democratic spirit. Now IT turns access into something different by opening up for new, extended possibilities to view archival material. Hence, the open data initiative challenges memory institutions, whose mission is preservation, in the meaning 'taking care of', 'attend to' and 'safeguard' the societal memory for future access. This is acknowledged; a closed government organizational culture is regarded as the main barrier for open data policy implementation (Huijboom & Van den Broek, 2011; SOU 2014:10, 2014). In Sweden, it has been observed that some authorities have a protective culture, and are therefore sceptical of releasing the information for re-use in ways that they cannot control themselves (SOU 2014:10, 2014). Yet another barrier is a lack of knowledge (Halonen, 2012). There is thus a multitude of reasons for different shifts and changes that lead to a delay in policy implementation. Here, however, we will focus on organizational context. We consider organizational context to be vital for the open data initiative to be realized, while simultaneously being challenging and time-consuming to change.

However, the work has begun, mainly in the form of digitizing archival collections, but so far only a small amount of archival material has been digitized. Moreover, contemporary access services at memory institutions are more organization-centric than user-centric, and the services have often been developed based on how things functioned in an analogue world (Runardotter, 2011a). The Director-General considers the open data initiative to be central, since it makes it possible to ask new and different questions than those initially intended with the

material. As such, he argued that open data is of strategic significance and of huge societal relevance. He emphasized that SNA should not regulate the use of its information.

Traditionally, archivists have been regarded as keepers of the archives (Cook, 1997). Now IT replaces archivists' responsibility as keepers of the archives, IT replaces the term 'archives' with 'premises', and IT has become the carrier of the societal memory, a task that has been assigned to archivists for centuries (Runardotter, 2009; Runardotter et al., 2011). Archivists' work situation has thus changed profoundly in recent decades. "It lies in the nature of the internet", the Director-General reasoned, "archives cannot be open and available and at the same time be in control." The Director-General has begun the work to change the organizational culture at SNA, but SNA has well-established structures and there is a fear that others will manipulate the material, the personnel are worried that: "They [the crowd] might do anything", the Director-General quoted. To succeed with organizational culture change, "you need to nag and focus on changing attitudes", he argued.

The Director-General admitted that "the organizational culture is deeply rooted; the elusiveness of the digital is frightening, and the limit for where SNA's responsibility ends is unclear in people's minds." Overall, archival staff is very aware of the responsibility and fully shoulder it by being competent, knowledgeable and loyal to their organizations. Their professional identity builds on this responsibility and a sense of duty to preserve the cultural heritage. The Director-General also said, "What archivists have in common is a great love for the archives. But our responsibility only comprises the existence of the material, that it is authentic and that it can be understood in its context. What others do with this material or information later on can never be the responsibility of SNA."

The positive aspects of the organizational culture at SNA are "a love for the mission, continuity and stability and the fundamentally positive attitude towards openness", the Director-General said. "What might be improved is to see the archival mission in relation to society. It is important to view the archives as societal resources", he concluded.

4.1. The Citizen-centric eGovernment Services Projects

As stated previously, our case consists of two projects stemming from the call for projects on "Citizen-centric eGovernment Services" which were divided into two phases. The first phase funded "pre-project" activities (clarifying the research idea, building a network), while the second phase was of a more traditional character, i.e. carrying out a research project.

The project team consisted of the same people in both projects and was represented by two researchers within the digital preservation field, seven archivists from three national archives and one person from an SME working with records management and archiving. As such, the project members came from different sectors and accordingly had different experiences of organizational culture.

The first project was a one-year pre-project aimed at setting the preconditions for the follow-up project. In the project, there was agreement on the vision to collaborate and coordinate material from the Archives, Libraries and Museums (ALM) sector in order to provide citizens with re-designed, new and innovative digital services based on archival material. The first project therefore set out to explore the preconditions for creating cross-border digital services based on archival material. The project conducted a comprehensive investigation of the area and found that the legislation in Estonia, Iceland and Sweden is similar and builds on the idea that all public

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information should be free to access by citizens. It was decided to focus on archives and develop a shared framework for new and unified digital services in archives. The project results were reports on the legal frameworks, how access is granted today, and the main gaps and challenges to providing seamless digital access services to archival public information in the Nordic-Baltic region (Runardotter et al., 2011; Runardotter, 2011a). In the first project, there was nothing to hamper the project's progress.

Building on the first project, the second project began in December 2011 with the intention of creating citizen-centric digital services on archival material through crowdsourcing, in line with the PSI directive. The project had the following objectives: 1) to develop a prototype of a citizen-centric e-service based on cultural heritage information; 2) to explore the role of crowd-sourcing methods for augmenting the e-services at archives so as to improve access to and usability of archived information, and 3) to develop a methodology for how the developed prototype and its underlying theoretical concept of services can be transferred to other memory institutions.

In January 2012, the project team decided that the project would aim at "enhancing descriptions of digital objects in existing archival collections by crowdsourcing, in order to improve the description of archival material as well as improving access to the material." This was in line with the project description that was approved by the funding organizations.

The project got off to a slow start. What especially puzzled us were the continuous discussions that seemed to stem from a desire to guard, or protect, the information held in the archives. Crowdsourcing was immediately debated as there were many concerns about what this might imply, and what difficulties it could bring for the archives. Three main themes were brought up repeatedly: 1) concerns about the responsibility for the material and where this resides; 2) thoughts about what happens if the information (data or metadata) added by a crowdsourcing citizen is incorrect; and 3) whether these changes and the related metadata should 'go back' to the archives or not. In essence, opening up data proved to be a tricky matter for a sector that for centuries has concentrated on preservation, in the sense of taking care of, attending to, and safeguarding archival collections. The discussions around the danger of letting the citizens "in" by adding crowdsourced information went on from January to October 2012. Table 1 below summarizes additional themes of discussions from the project start until October 2012. These discussions took place during meetings as well as in-between meetings (e-mail, phone).

Theme	Source and date
Enhancing descriptions of digital objects in existing archival collections by crowdsourcing.	Meeting notes 2012-01-18
The archival subject ontology or "Keywording system" is too complicated for the crowd (any citizen).	Meeting notes 2012-02-02
Differing views of crowdsourcing among project members need to be sorted out.	Meeting notes 2012-02-20
The problem of wrong information/bad quality added by the crowd (e.g. wrong person tagged of two persons with the same name).	Meeting notes 2012-03-01
How is it possible to integrate/link information created by the crowd with the archival catalogue system?	Face-to-face meeting 2012-04-24/25
Unclear what we mean by linking schemas.	Meeting notes 2012-05-22
Crowdsourcing projects overview is once again needed.	Meeting notes 2012-06-27
Need to decide exactly what it is we want to develop. Need to decide the type of data. Need an idea of how it will work technically.	Meeting notes 2012-09-04

Decision: the project will develop a framework (demonstrator and guidance) for any memory institution to open up their data and link their cultural heritage information to the semantic web.	Face-to-face meeting 2012-10-24/25

Table 1. Discussion themes.

When reflecting upon this while the project was on-going, we had difficulties in understanding why open data and new ways of making archival material accessible was such an 'unsolvable' issue. We could also see that, while discussing this on a conceptual level in the first project, there were no problems, but when we tried to actually develop and design something concrete, it became difficult. The interesting question is why this happened. We therefore began to analyse the material and our experiences with the support of the socio-technical perspective. This analysis was first done openly, meaning that we read our material and highlighted the aspects discussed and mentioned repeatedly. We also identified discussion themes from the meetings, as shown in Table 1. The results of this analysis were then related to our theoretical framework, seeking explanations and understanding.

Based on our analysis and interpretation of the situation, one plausible explanation was that it was their mission as archivists that made it hard, and they feared that they were about to lose control of the material for which they are held responsible. They thus showed great concern for the archival material, and wanted to avoid the risk of material being changed or used wrongly. Related to this, our interpretation is that their mental model of what opening up archival data involves was strongly related to their experiences of how citizens access the archives resources, namely by reading the original data in reading rooms. But, when offering citizens the opportunity to contribute to open data, there is actually no need for the citizens to access the original document – what they contribute to would only be a digital reflection of the original. Hence, in practice, there is no risk to the original material; it will still remain safely in the archives. Our interpretation of this situation was that what the archivists found troubling and could not overcome was the level of quality, reliability and trustworthiness of the data that would be added by citizens. Their main concern as archivists was how they could take responsibility for the data citizens would contribute with.

As a result, the project team decided instead to look into linked open data, an idea that was first brought up in April 2012. Even so, the discussions of open data and crowdsourcing went on, hampering the project, and during the autumn of 2012 the project team said that there was a need to meet face to face, to finally decide what to do in detail, and also to: a) decide on the type of data; b) find a partner that links open data; and c) develop an idea of how it will work technically. The face-to-face meeting took place in Estonia in October 2012. By then, the project had made a review of what crowdsourced archival material existed at that time, and the project team had made several suggestions of possible scenarios for the project to continue working with. Nevertheless, the project team now reasoned that it would be difficult to make a new or innovative contribution by means of crowdsourcing and open archival data since "so many initiatives had already taken place". It was, therefore, decided that linked open data was more interesting and of more value to the citizens.

This shows that the project team could not solve the problem of opening up the data and let citizens contribute through crowdsourcing, due to an anxiety of potentially losing control of it. The only solution was, therefore, to abandon this idea and instead concentrate on linked open data. We argue that the conclusion that it was too late to make any contributions to the area of crowdsourcing can be questioned –

there is still much to do in this area, since the issue of open archival data is in its infancy. Our interpretation is that it was necessary for the project to leave the idea of crowdsourcing in order to make progress and concretize the project. Linked open data provided a safe ground on which the project team could reach a common understanding.

But why was linked open data perceived by archivists to be less risky than improving open data through crowdsourcing? Based on our interpretations of the data, one plausible explanation is that linked open data based on archival material would be created in-house by personnel at the archives, not by citizens. Control of the material thus remained with the archives. It was probably also more obvious that linked open data was digital and did not risk the original, analogue material in any way. Furthermore, linked open data did not add any information (that needed quality control); it was merely analogue material being transferred to digital versions. As such, the material was still quality-assured, reliable and trustworthy. It was thus in line with the professional and organizational culture of archives to safeguard the data.

Nonetheless, it was not until March 2013 that a detailed agreement on what the project would achieve was finally reached. The expected result of the second project was expressed as "a demonstrator for any memory institutions to open up their data and link their cultural heritage information to the semantic web", as had already been discussed in October 2012. It was also decided to focus on genealogists and narrow down the material to be looked into by means of an intuitive interface.

Our interpretation is that the focus on genealogists was easily accepted since this is a user group that is well-known to archivists – genealogists are not 'any citizen' (crowd) but a group of users who frequently visit archives and have knowledge about the archival realm. Hence, they understand, respect and adopt the culture of archives and archival data.

In the end, the project provided a simple methodology to annotate relevant holdings. Finally, a methodology handbook was written on how to create cultural heritage open data and link it to the semantic web (Runardotter et al., 2014). The project also built demonstrators, one in each country, which gained a great deal of attention and interest among archival stakeholders. The project ended in April 2014.

5. Organizational Context Implications

In this section we will illustrate and discuss the socio-technical implications we have found related to organizational context based on the case we described in the previous section. The main aspect we want to emphasis first is the origin of the organizational culture in archives. This is referred to as the archives having two kinds of data that can be opened: everyday administrative data and archival collections data. In the projects, it was the archival collection data that was in focus, i.e. the data for which they are responsible and supposed to preserve, protect and make accessible based on their organization's mission. Hence, we suggest that this mission contributes to and colours their professional and organizational culture in a fundamental way, and as such illustrates a barrier found within the organization (Huijboom & Van den Broek, 2011).

We have identified the following themes in our case: Identity discrepancy; Internal policies; Policies from above; Values and norms; and Technical solutions. Below we analyse these and provide our interpretation of the implications they provide.

Identity Discrepancy

Working in archives puts personnel in a position where they are expected to collect and safeguard evidence and memory of society at different times and how its organizations functioned and performed. This responsibility colours the organisational context; by emphasizing the importance of keeping the material intact there is an implicit message to protect it. When protecting something, control is vital. Since the PSI directive aims at openness and brings with it a sense of "letting archival material out" it becomes problematic for archives (Huijboom & Van den Broek, 2011; SOU 2014:10, 2014). There is an inherent discrepancy between the mission of the archives (preserve and control) and the ideas of digital openness (open up and set free for re-use). Moreover, opening up an organization and encouraging others to contribute to their organization includes some risk-taking. In the organization studied here, the level of risk-taking is probably rather low, since their main objective is to care for the archives. This is in line with the bureaucratic culture, as described by Ovseiko and Buchan (2012), focussing on stability and control.

Implication

This implies that the prevailing professional and organizational culture collides with the nature of the policy of open data, something which makes the implementation process of the policy more cumbersome and time-consuming.

Internal Policies

Working in the name of the state implies that norms, rules, regulations and policies play a significant role (Parker & Bradley, 2000). For a national archive, efficiency, uniformity, coordination and control (Denison & Spreitzer, 1991; Ovseiko & Buchan, 2012) can be regarded as a means for stability and trustworthiness. Until now, they have not needed to be innovators, pioneers or even at the forefront; their mission has not been to compete or strive for market shares (Parker & Bradley, 2000).

Implication

Open data and openness are rather new and emerging approaches and as such have a greater chance to succeed if the organizational context that aims to accomplish this is marked by having an innovation culture (Naranjo et al., 2011). Furthermore, we argue that, only when common understandings or agreements are in place is the organization ready to make progress.

Policies from Above

When policies such as the PSI directive are introduced at the European level, the policy must be interpreted, understood and sometimes also adapted at various levels until it finally reaches individual organizations (see e.g. (Gärtner & Wagner, 1996) for a description of how policies spread among different actors and instances). The organization then needs to explore what is required in order to accomplish what is expected. When a policy is unfamiliar, perceived of as risky, and not in line with or even contradictory to the values, norms and behaviours that prevail in the organization (Denison & Spreitzer, 1991; Parker & Bradley, 2000), discussions begin. This was demonstrated in the second project; the problems of reaching a common understanding, with several discussions on the same subject, made the project drift away from its goal, to implement an instance of the PSI directive.

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Implication

Based on our findings, this implies that what they need to be able to do is to adopt and adapt to the policies regulating their area and we reason that this can be done in more or less innovative ways. We also find it plausible that archivists question the open data initiative – they should do so in order to take informed, well thought through and solid decisions before taking action.

Values and Norms

Members of communities apply their knowledge within their context, and the knowledge within that context is blended with their competence and skills. These, in turn, are formed by the community's values and norms that form the organizational culture (Kellogg et al., 2006). In our case, the archival profession is formed by norms and values such as protecting the material in the archive (ICA, 1996; Lindh, 1998). There is a need for a shift of understandings, that archival material can be digitally open while simultaneously still in safe analogue care. When working on shifting understandings, it would be useful to involve many partners since this facilitates work with open data (Conradie et al., 2012). There is also a need to look at individuals and identify who could be carrier of both values and norms to sustain the professional culture, but also values and norms that can alter the culture since individuals are often drivers of change (Herzog, 2011).

Implication

When this kind of resistance is found within an organization, it is natural that the organization's members must be given time to work out how to accomplish this collaboration with others outside the organization. It is also important to identify and encourage people who are positive to the change and thus empower them to drive the change.

Technical solutions

One reason for resistance stems from the fact that the archival community must avoid a multitude of solutions. A coherent approach lays the foundation for synchronization, co-ordination and joint search and retrieval tools for end-users of archives.

Implication

Technical solutions must be secure; archives cannot risk losing either material or metadata during, for example, transfers of records (Runardotter et al., 2014). Also, the implementation of the PSI directive must function in a network of archives, which contributes to the complexity of the policy implementation process and could, therefore, contribute to a drifting policy implementation process (Naranjo et al., 2011).

6. Conclusions

We reason that, depending on what type of professional and organizational culture prevails, the distance between the organization's current situation (in relation to what the policy aims for) and an implemented policy differs. It is likely that an organization where flexibility, adaptability, creativity and risk-taking is encouraged will more easily adopt and implement a policy such as the PSI directive with its open and market-oriented nature. In line with our reasoning, the organizational context at the archives in our study is less prepared for that new line of thought since it is an

organization built on stability and control (Denison & Spreitzer, 1991; Naranjo et al., 2011). This means that the organization would benefit from moving towards a more open approach and building on values such as flexibility and change in order to implement the directive. It would be an advantage if their mentality changed (Giannopoulou et al., 2011), if they adopted a flexible attitude (Vanhaverbeke et al., 2008), and if they reflected on their organizational culture. In turn, this also includes moving from an internal focus (how do we preserve the cultural heritage, how do we want things to function) to an external focus (what do our users want, what would work best for them) and explore how to take advantage of user-driven policies (Halonen, 2012). Also, being expected to carry out a policy requires that personnel are given the support they need as well as guidelines on how to act, since individuals play an important role in opening up organizational processes (Giannopoulou et al., 2011; Herzog, 2011).

We end by arguing that the open data initiative clashes with the prevailing organizational context at archives. Perhaps the most important question is this: what is it that is perceived of as risky? Organizational culture has four functions: identity, commitment, system stability and sense-making (Cheung et al., 2012). Could it be that the organization's members perceive their professional identity to be shaky? If so, that they risk losing their commitment? Also, does a policy like the open data initiative lead to the personnel no longer being able to rely on their old, traditional sense-making? Do they experience that their system is no longer as steady as before?

7. Final Reflections

What we have described indicates that the current situation at public authorities to some extent collides with the EC's rather technological deterministic view that technology will solve everything (Orlikowski, 1996). When technology does not do this, the action taken is an overview of laws and regulations (PSI DIRECTIVE 2013/37/EU, 2013). But policies concerning IT-related implementation have both material and social dimensions (Orlikowski & Robey, 1991) and policies that build on technological possibilities and, therefore, require actions by human actors in order to be implemented. Individuals are important (Giannopoulou et al., 2011; Herzog, 2011). As mentioned earlier, most barriers are found within the organizations, e.g. protectiveness and lack of knowledge (Halonen, 2012; Huijboom & Van den Broek, 2011; SOU 2014:10, 2014). Policy-making at European level can, of course, not focus on individuals in every organization. It is the responsibility of each and every organization to translate the policy in accordance to their specific context, and transform or adapt their organization in order to implement it (Gärtner & Wagner, 1996). The organization must encourage their personnel to accept and adopt the changes needed.

The PSI directive is an IT-driven initiative and, if the personnel do not adhere to this, they might choose to act differently (Orlikowski, 1992). This does not mean that the PSI directive will never succeed; many times, changes take place incrementally, through small adjustments in everyday work (Orlikowski, 1996). It can also be argued that perhaps it should not succeed and that not all data should be open data, even if it is public. However, this discussion is outside the scope of this paper. For now, we claim that, if the organizational context, with its accompanying professional and organizational cultures, which colours the values, behaviours and artefacts (Cheung et al., 2012; Herzog, 2011; Martins & Terblanche, 2003; Naranjo et al., 2011) is not in line with the implicit nature of the policy, the time to fully implement a policy can be

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prolonged. The implementation process can drift away and the organization must face the risk of not reaching the policy's objectives on time.

Our study shows that organizational context and cultural characteristics such as values, norms, behaviours and artefacts, influence the policy implementation process. However, we wish once again to stress that there are other factors influencing this type of implementation process, e.g. knowledge, structures, strategies and technological infrastructures, which are equally important to take into consideration. The area could certainly be further investigated.

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