Public e-services from inside: a case study on technology's influence on work conditions in a government agency

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Public e-Services from inside – A Case Study on Technology's Influence on Work Conditions in a Government Agency

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Purpose: The purpose of this paper is to discuss the consequences of citizens' increased use of public e-services for agency employees' work situation.

Design/methodology/approach: In order to accomplish the purpose of the paper the authors focus on the way in which the increased use of public e-services also implies internal process and routine changes in public administration. The authors analyze work conditions for case officers at a government agency in Sweden by applying occupational ideal types to identify the specific work conditions in the studied case. The case study is based on qualitative data collected with a back office perspective.

Findings: The findings indicate a new hybrid-organization where the increased use of e-services challenges earlier demands for competence. The transformation of e-government has implications for job codification, rule observation, job specification, and interaction with the general public.

Originality/value: The paper extends the knowledge on how the increased use of public e-services affects back-office work conditions, with an increased high level of complexity in work content, but with low level of work autonomy. It argues that studying back-office work conditions is an important management issue in public administration research as well as practice.

Keywords: Working conditions, Public services, Public administration, Organizational restructuring, Information technology, Public sector organizations, Sweden, Development agencies, E-government, Change management

Paper type: Research paper

1 Introduction

We experience an increased implementation of electronic government (e-government) in public administration in many countries. Developing public e-services to improve both agency efficiency and citizen service quality are the prevailing goals of these efforts (Gil-Garcia & Martinez-Moyano 2007, Irani, Love & Montazemi 2007). Thus, while research in municipal e-government advances; researchers have paid less attention to the ways in which e-government reflects the changing nature of work in public administration. In recent years, vast research has demonstrated the need for a more strategic approach to information technology (IT) use in the public sector. Some studies have even discussed the importance of relating it to some kind of management paradigm (see for example Virili & Sorrentino 2009, Kamal & Alsudari 2009, Amoretti 2007). Whether the management paradigm is explicit or not, new technologies give rise to new modes of production with consequences for e.g. the division of labour. The impact of these changes in the public sector is clearly seen in the type of work that is performed, in terms of new demands in productivity, efficiency, and increased service (Contini & Lanzara 2009). Furthermore, in their transformation to e-government, public agencies show another face to the citizens, but the former demands on, e.g., legal justice in decision-making and authority still exist. Employees find themselves having to develop new work routines and skills to be able to apply the innovations to their work (Melin & Axelsson 2009). Since new technologies give rise to new modes of production, and new modes of production in turn generate new kinds of work practices (for further elaboration see, for example, Burris 1998, Freeman & Louca 2001, Webster 2002), under different conditions and within different IT implementation strategies, jobs may become more or less skilled, work groups may gain or lose flexibility, power may shift to or from central administrators, and so on (Barley 1988, Burris 1998, Eriksson-Zetterquist, Lindberg & Styhre 2009). It is for this reason we would argue a more detailed understanding of the ways in which the transition to e-government affects public administration's organization, jobs, and working conditions is long overdue.

These are research questions that historically have been in focus in information systems (IS) research when studying automation of manual routines by introduction of information technology – computerization of work in the early 1970ies (e.g., Ehn 1993, Nurminen 1988). A socio-technical perspective on interaction between technology and organization has also been used in prior public administration research efforts (e.g., Orlikowski 1994, 2007, Olsson & Åström 2006) and is also a part of a working life perspective in the Labour process school (e.g., Burris 1988, Webster 2002, Giritli Nygren 2010) further described below. We argue that these are examples of timeless research issues that should be more visible in organizational studies of public administration today. The purpose of this paper is therefore to use occupational ideal types to discuss what consequences citizens' increased use of public e-services has for agency employees' work situation by taking into account the influence of technology on work conditions in the realization of e-government as various kinds of practice. In this paper we analyze and discuss how this change also implies internal process and routine changes in public organizations, which influence working conditions for agency employees. This is important knowledge for public management as an example of a thorough understanding of the effects of IT use on work situations. This is critical for the professional development of case officers and other roles within the public administration.

After this introduction, the paper is organized in the following way: In Section Two the theoretical framework for this paper is presented and discussed. The research method is then described in Section Three, followed by our empirical findings in Section Four. These findings are discussed and analyzed in Section Five. The paper is concluded in Section Six, where we also make some statements about the need for further research efforts.

2 Theoretical Framework and Related Research

Similar to the difference drawn in industry between mass production and customized production, in the public sector one can differentiate between the ideal types of organizational forms – mass bureaucracy and customer-oriented bureaucracy (Frenkel et al. 1998). These ideal types can be used to illustrate the differences between various organizational types of production and management strategies during the transition from an industrial society to, what has sometimes been called, a post-industrial society (ibid.). Some would argue that e-government is just one element in a more general transition from conventional to customer-oriented bureaucracy (see, for example, Korczynski 2002, Lane 2006, Budd 2007). Such broad societal and organizational trends are held by this tradition to be important to any understanding of why an organization changes. The starting-point in this type of research is, thus, organizational change in a discursive perspective, with an emphasis on the organization's identity. In our research we want to start from a different angle, contributing to issues of public management from the perspective of employees linking new forms of organization with technology and actual working practices.

If we look at the ways in which technology relates to how work is organized in an employee perspective there have been two differing answers (see Cavanagh 2007 for a review). One follows Braverman (1974) in highlighting the implications of technology in the form of greater centralization, the deskilling of employees, and reduced autonomy. The other applies the theories of post-industrial society coined by Bell (1980) to emphasize the significance of technology in the advent of flatter hierarchies, a more qualified workforce, and employee participation and autonomy. In the last decade, however, studies have shown that the relationship between IT and the changes to how work is organized is far more complex than these two answers allow for.

When studying organizational change in public agencies from a working life perspective, case officers' daily work is in focus. A theoretical tradition for such studies is the Labour process school (e.g., Burris 1998, Levy & Murnane 2002, Webster 2002, Wood 1992, Zuboff 1988). Studies within this tradition relate work processes and new forms of organization with concrete work activities. These studies underline the importance of technology, organization and work distribution for productivity.

Several studies of IT and service production indicate that the same technology applied in different organizations can result in very different consequences regarding the qualification level of the work content (e.g., Burris 1998) as well as other effects in the organization. Technology that in one organization results in up-qualification of work content might in other organizational settings lead to de-qualification or re-qualification. The level of qualification in work content can be influenced in many directions and this implies that polarization between groups of employees might occur (ibid.). Similar studies conducted within the IS field have focused on how different groups of employees within an organization view, make sense of and use technology (e.g., DeSanctis & Poole 1994, Orlikowski 1994, Orlikowski 2007).

Previous studies of how work content in public organizations changes when e-government is introduced show that a shift from "working with people" to "handling documents" often takes place (Giritli Nygren 2010). This is not always regarded as a change that results in increased service quality, as e-government is supposed to do, but rather the opposite (ibid.). In a similar way that mass production and customer-driven production are two different strategies in industry settings is it possible to distinguish between mass bureaucracy and client-oriented bureaucracy in public sector (Frenkel et al. 1998), as introduced above. When talking about e-government and IT strategies in public management, often described together with the transition from an industrial to a post-industrial society; i.e., moving from conventional to client-driven strategies for and organizations of bureaucracy (e.g., Korczynski 2002, Lane 2006, Budd 2007). If that would be true, the most obvious trend would be that e-government reinforces flatter hierarchies, client-driven service production, flexibility, and performance management but earlier research has showed that there exists a homology between ideal typical forms of bureaucracy and ideal typical forms of employees. It does not mean that one replaces the other; they do co-exist in the very one organizational setting. Giritli Nygren (2010) has, for example, identified two co-existing ideal types of employees in e-government settings. These two categories work under different conditions and correspond to two types of bureaucrats. The first one is the "Monotonized administrator" who works in a standardized production context and the other is the "Personalized bureaucrat" who works in a client-driven production context. These two ideal types indicate that e-government can be realized in different ways which have different consequences on job codification, rule observation, job specification, and interaction with general public (ibid.). The two ideal types are positioned differently regarding these aspects of the agency's work processes. The types do not imply a static position, though, but employees can alter between the types or be placed in-between the types for a certain category. Thus, the types should be seen as ideal extremes that in practice might co-exist in different or mixed forms. Applying this kind of ideal types of employees in e-government helps us to reveal how public e-services are perceived and used by different professionals. This understanding is vital for successful public management in e-government settings.

3 Research Method

This paper reports from a qualitative case study conducted in 2009 at the public agency in Sweden responsible for handling study grants to students in higher education; the Swedish Board for Study Support – CSN (the agency acronym in Swedish). The case study illustrates an agency that works actively with e-government and e-services. The case is therefore interesting to investigate and to explore due to its unique qualities and character rather than its statistically significant and representative nature. Our ambition when conducting the case study has, thus, not been to arrive at generalizations in a positivistic and statistical sense (cf. Yin 1994), or to ensure repeatability. The value of the result should instead be judged by the extent to which it permits others to understand the studied phenomenon (Walsham 1995).

The study focuses on consequences for case officers when citizens increase their use of public e-services in their interaction with the agency. The case officers' experiences of job situation, professional roles, complexity in work content, work autonomy, competence, and relation to citizens were focused themes during the interviews as well as in the discussion of the findings. These aspects have been related to IT aspects, such as increased use of IT support for case handling, in order to capture how the employees regard technological changes and increased use of public e-services. The qualitative interview method was a suitable choice (Silverman 1993) in this case. In order to highlight issues from several perspectives, focus group interviews (Morgan 1998) were used when interviewing the case officers. An advantage of focus groups is that the interaction between participants gives a great depth in the answers to questions which are illuminated from a variety of perspectives. The conversation broadens perspectives on the subject at hand as participants can express their views, listen to others and fill in with their own experiences (Strauss 1987).

All together 46 persons work at the studied office, of which 43 persons are case officers (student investigators), two are group leaders and one is office manager. The case officers are divided into three areas of expertise: Repayment (n=9), Study (n=14) and Recovery Study (n=20). We conducted two focus group interviews with a total of 13 case officers from these three areas of expertise. The purpose of the focus group interviews was to get a rich picture of the case officers' own experiences and opinions concerning their work situation in relation to increased use of public e-services. In order to put the case officer interviews in a managerial context, interviews with the local managers and one informant representing the headquarters development department were also conducted. Overall the data material consists of five face-to-face interviews with all together 17 respondents. The interviews were facilitated by a semi-structured interview guide and were recorded on tape and transcribed. The interviews lasted around 60 minutes. Table 1, below, summarizes the data collection.

Table 1. Data collection and respondents

Data collection method	Number of respondents and their profession
Focus group interview	Six case officers (student investigators)
Focus group interview	Seven case officers (student investigators)
Interview	Two group leaders
Interview	One office manager
Interview	One person representing the development department (HQ)

3.1 Analytical Strategy

Using ideal professional categories is a common way to visualize employees' working conditions in research studies (Barley & Kunda 2001). Ideal types are often used as theoretical tools to compare situations (Weber, 1949). They can also be used to explain how work distribution is designed and how, for example, status is divided between different groups. Inspired by Giritli Nygren's (2010) taxonomy of ideal typical occupations in e-government work practice (see table 2, below), our analytical categories are; *job codification, rule observation, job specification,* and *interaction with general public*. These dimensions are here used as theoretically grounded characteristics that underlie the interpretation of the empirical material and serve as analytical tools.

Table 2. Ideal-typical occupations in e-government (c.f. Giritli Nygren 2010)

E-government working practice	Monotonized administrator	Personalized bureaucrat
Job codification	Case-work Low degree of complexity Displaced work object from people to documents	High degree of complexity Maintain and enforce efficiency and IT solutions Marketing and consulting
Rule observation	Narrow remit Highly routinized Less qualified	Wide remit Find solutions when no standardized solutions are appropriate More qualified
Job specification	Little ability to influence working practices Centralized responsibility De-skilled	Ability to influence their working practices Decentralized responsibility Up-skilled
Interaction with general public	Routinized Occasional and fast Invisible Standardized	Consultative Specific and problem-oriented Visible Personal

The methodological advantage of the assumed ideal typical occupations is, as mentioned above, that they constitute a basis for comparison. In order to generate hypotheses and contribute to the understanding of what consequences increased use of public e-services may have for agency employees' work, ideal types can help us to characterize the case based on how it relates to the ideal types. Findings from interviews with case officers will be positioned to the ideal types in order to increase knowledge about how work practice in this public agency is influenced by increased use of public e-services. We argue that this is a method that lends itself to the study of how the concept of e-government is realized in terms of the institutional dynamic embodied in the 'e' of e-government. Each and every employee finds themselves in social structures that accord them varying degrees of power and freedom of action, and it is for this reason interesting to study what the significance of such variations may have for their practical experience of e-government.

4 Empirical Findings

In this section the case organization is described. After the description we follow the taxonomy presented above in order to structure the findings related to our analytical categories.

4.1 The CSN Case

CSN distinguishes between front-office and back-office tasks which are handled at different offices. The most repetitive and easy to solve issues are handled at a front-office. The studied office handles more complex (back-office) questions and problems. At the studied office, case handling activities concern the three mentioned areas; repayment, study and recovery study. The task distribution and specialization at the office follow these three areas; i.e., each employee is dedicated to one expertise area. The reason for this is that each area requires certain legal knowledge and experience which makes it difficult to alter between expert areas. During a day the case officers divide their time between answering the telephone, answering e-mails and handling cases. The latter task contains administrative work that has to be done as a result of the customer contacts through telephone and e-mail. The case work consists of both manual and automated tasks; including handling web based cases (i.e., applications submitted through e-services).

The agency is active in striving to increase e-government by offering e-services to the customers. A strategic goal is that the amount of customers using e-services when applying for study grants will increase in the coming years. Other goals related to this ambition are that the organization will improve efficiency, recruit staff with feasible competence and work more with pro-active study social support.

4.2 Job Codification

When asking the case officers how they would describe their work and professional role from the perspective of their most important work task, most of them answered that they are supposed to provide good service to CSN’s customers. They are supposed to be experts on study grants issues. What renders them job satisfaction is described by one of the case officers:

> - The thing that gives me personally the most satisfaction is when someone has a problem that seems insoluble for them, usually on the telephone, and I can solve it fairly easily, that feels good.

Job satisfaction seems to be reached when case officers solve a problem and the customer expresses his or her appreciation. This positive response on consultation is most immediate on telephone. The work content is strictly divided between telephone, e-mail and case handling. All case officers’ time is divided between these three tasks. They cannot decide about this division themselves, but the managers make up the schedule. The majority of case officers find the telephone to be the most demanding task. When asking if telephone work is more difficult than e-mail and case handling the following dialogue starts:

> - Well, not more difficult questions, but you can do either two, or if you have two shift, four hours on the telephone each day, then there is always work left to do when you finish because there are lots of things you can’t sit and deal with when you’re still on your shift.
>
> - Yes, there are lots of after work issues.

The lag of work after telephone shifts seems to”steal” time from, for example, case handling, which creates stress. In the empirical material, respondents codified jobs according to whether they were centered on case work, and were thus simple (uncomplicated) and monotonous, or on marketing and consulting issues with quite a high degree of complexity involved. So, for some activities, the degree of performance specification is centered on simple processes that are a part of the resource rationalization process; in other words, activities intended to increase efficiency and automation. At the same time, other activities are described as qualified, customized and consulting often connected to their specific area of competence. This way of describing their work indicates that the very same employee can experience both processes of de- and re-qualification at the same time.

4.3 Rule Observation

The work content is not task differentiated, but everybody does everything within their field of expertise. The work is instead competence differentiated, meaning that the case officers answer different kinds of questions and handle different kinds of errands. This has not always been the case at the studied office. There have been attempts to cross the competence areas, but this has not succeeded since the regulations are so specialized. It seems as implementing IT support has made the work even more specialized:

- Yes, the regulations are more developed now.
- Mmmm, yes, maybe it was easier to handle study grants twenty years ago. There are so many rules to follow nowadays.
- And the technology makes it possible to control and check much more now.
- I think that you are right there.
- Maybe we could be a bit more generous before, I do not know.

Technology seems to facilitate increased control and the growing specialization makes it more difficult to be competent in more than one area. When working in front-line offices answering easy questions on telephone individuals might be able to handle several areas, but back-office employees get the more complex issues divided based on their competence. Also within a certain competence area (e.g., repayment) there is a division between individual case officers based on their expertise. It is difficult to judge if this is a consequence of technical development, but the far-reaching specialization is at least made possible by technology. Easy cases are handled automatically in the IT system and advanced regulations and support functions are also IT based. The respondents regard competence about rules and regulations to be most important in their job, even though they also need some IT competence. Not at least do they need understanding of the relations between support functions and regulations so that they can know the restrictions of the IT system.

4.4 Job Specification

Job specification is about to what degree the case officers think they can influence how and when they perform their tasks. Our respondents apprehend that they have low degree of work autonomy; they all see themselves rather controlled. We asked what controlled them and they answered:

- Mostly the routines.
- We do not have any choices since the routines tell us what, how and when things should be done.
- Maybe you can say that the technology is somewhat mastering us, since we are so dependent on it. We sit by the interfaces and try to solve problems.

Despite this answer the respondents describe their work tasks as varied, fun and intellectually demanding. They do not think that the increased level of automation has made the work monotonically or standardized. They emphasize complex problem solving as an important part of the work, even though it is strictly regulated and routine, which seems to be a paradox in this case. Turning to rule observation, the amount of routine work is said to have increased, but so has also the complexity and variation in their work. Even though, they all acknowledge that their work achievement is a matter of extreme efficiency, counted by the number of cases handled each day.

4.5 Interaction with General Public

CSN does not talk about ”citizens” or “clients” but label the persons who contact the agency ”customers”, in line with an overall agency policy. Customer relations are highly emphasized both by case officers and management. Everyone seems to value a good customer treatment and they appreciate positive customer feedback about how they approach their customers. A respondent explains this by emphasizing the special spirit in the office:

> - We’re people, not just bureaucratic administrators, we are committed and we like our work. There’s a special spirit here, a special team spirit that has existed since at least sixteen years. I have worked here for sixteen years and I felt it at once when I walked through the door.

The case officers are truly committed to and like their service function. At the same time the consequences of increased use of public e-services for the customer interaction is commented like this:

> - Less and less contact, I think, if you mean physical contact, in principle, all CSN offices have closed their reception areas. And if anyone wants to meet us they must make an appointment. It is not possible to just go in and check up something at CSN. Actually, I think the personal contacts have decreased and I think it is sad, in fact, I think that more personal touch would make many things easier, especially for people who have difficulties understanding rules or keeping up with what’s happening. I think they are doing many guesses or hunches and hope that it will be the best, but if one could go in and talk to someone quickly then of course it might be easier to understand why it may be in one way or another.

At the time of the case study, personal customer contact almost only occurs over telephone. The case officers assume that is a reason for CSN’s prioritization of answering telephone calls before e-mails and case handling, as some of the respondents articulate:

> - Yes, I guess that’s why we have this order of priority, even if we case officers often think that we should give case work higher priority since we believe that if we do, they will not call us, but they do anyway. That contact is contact number one, and will always be.
> - People will never stop calling us, no matter how many web services there exist.

Since there are very few personal contacts with customers nowadays, talking to customers on telephone is the only contact when the case officer is “visible” to the customer. In general, the case officers describe their relationships to customers as very important. They also feel that a more personal contact is desirable. Today, the personal touch only takes place on the telephone which means that it is only through that channel they have a slightly more “visible” contact with the customer. When handling e-mails and web based case work the relationship is invisible. It is also telephone errands that are the most complex, which makes the case officer role more specific and consultative.

5 Analysis and Discussion

When structuring our empirical findings according to the taxonomy of ideal types of employees in e-government settings, we find that the case officers at CSN work under conditions that correspond to both of the two ideal types of bureaucrats. Even though many aspects of their working conditions are close to the ideal type of the “Personalized bureaucrat”, we have also identified some strong influences of the “Monotonized administrator”.

In our empirical material there are signs of an increased customer-driven form of production (Frenkel et al. 1998) which confirms to those who argue that e-government can be viewed as a part of the transition from an industrial to a post-industrial society. This implies a move from conventional to client-driven strategies for and organizations of bureaucracy (Korczynski 2002, Lane 2006, Budd 2007). However, this interpretation is only valid to some extent; the case illustrates an unusual combination of centralisation, flexibility and performance management. In table 3, below, the aspects that we have found in the studied case are underlined.

Table 3. Hybrid work conditions at the studied office

E-government working practice	Monotonized administrator	Personalized bureaucrat	Hybrid form at CSN
Job codification	Case-work Low degree of complexity Displaced work object from people to documents	High degree of complexity Maintain and enforce efficiency and IT solutions Marketing and consulting	*Case-work* *High degree of complexity* *Marketing and consulting*
Rule observation	Narrow remit Highly routinized Less qualified	Wide remit Find solutions when no standardized solutions are appropriate More qualified	*Narrow remit* *Find solutions when no standardized solutions are appropriate* *More qualified*
Job specification	Little ability to influence working practices Centralized responsibility De-skilled	Ability to influence their working practices Decentralized responsibility Up-skilled	*Little ability to influence working practices* *Centralized responsibility*
Interaction with general public	Routinized Occasional and fast Invisible Standardized	Consultative Specific and problem-oriented Visible Personal	*Consultative* *Occasional and fast* *Invisible* *Specific and problem-oriented* *Personal*

The job codification of the case officers is not task differentiated since all employees handle all tasks within their expertise area. Instead, they handle both easy and complex cases, give advices and consultation, and solve problems depending on what the customers ask for. On the other hand, they are not at all involved in the development of e-services and working routines, which the head quarter is responsible for.

The rule observation shows that the increased specialization leads to higher qualifications, which is closest to the aspects of the “Personalized bureaucrat”. This could sound as a contradiction in itself, but the specialization seems to give the case officers an expert function within their specific field. Despite the strong rationalization, this seems to generate a rather high level of complexity in the working tasks. It is difficult to judge if this solely can be explained by the technological development, but it seems as IT at least makes it possible. First of all, many simple cases are now handled automatically. Secondly, the increase of advanced regulations and support functions also increase the work complexity and the elements the case officers have to pay attention to. The case officers value, however, the legal competence to be the most important for their work, even though IT competence nowadays is necessary for the profession.

Regarding work automation at the studied office there are no signs of the conditions for the “Personalized bureaucrat”. The case officers have very few possibilities to influence their work practice. The office as well as the total agency is characterized by a strict centralized governance and managerial style.

All in all, the case officers describe their customer relations as very important. Job satisfaction is reached by solving customers’ problems and getting appreciation for this. The communication media influence if the case officer is visible or invisible to the customer, as it is only the telephone that makes a personal, visible contact possible. It is only when doing telephone work they feel opportunities to put personal influences on their work. Comparing our findings with earlier research it is possible to believe that the implementation of e-government includes both mass bureaucracy and customer-oriented bureaucracy processes (Frenkel et al. 1998) which means that there are contradictionary processes that has to be dealt with from a public management perspective. In this particular study this has been solved by creating a kind of hybrid-organization which positions the employees in a kind of paradox work situation. This is opposite to Giritli Nygren’s (2010) study where there seemed to be a more obvious polarization managing the workforce by positioning some in a mass bureaucracy context and others in the customer-oriented bureaucracy content.

6 Conclusions and Further Research

This article has explored how back office work is constructed socially in relation to the positions, tasks, attitudes, and competencies of case officers. The studied case reveals work conditions including advanced and specialised problem solving in a highly centralised environment. Using ideal typical forms of occupations we were here able to visualize how work distribution was designed at the studied office. According to our analysis, the studied office could be defined as an example of a hybrid-organization with high level of complexity in the case officers’ work content, but with low level of work autonomy. The production context (CSN) is both standardized and customer-oriented which indicates how the ideal extremes of occupational types co-exist in practice (cf. Barley & Kunda 2001). Increased use of public e-services may lead to more detailed and complex regulations, which imply increased specialization and re-orientation of work content from case handling to investigation and problem solving. Such re-orientation of the professional role of case officers can be explained by the fact that new technology (i.e., public e-services and internal IT systems) facilitates electronic handling of simple (uncomplicated) cases. This implies that the manual case handling becomes more concerned with correcting mistakes. Routine case handling disappears as a working task of case officers, as the IT systems handle this instead. These findings can also be understood by Orlikowski’s (1994, 2007) statement that groups of employees within an organization view make sense of and use technology differently. We identified, e.g., differences in how case officers and managers view e-government and the influence technology has on case handling. However, all respondents expressed that they to some degree felt subordinated in the means of having to adapt to the technologies with which they are involved and adapt them to the meanings of their work. Each case officer has to struggle in order to sustain and improve the conditions under which he or she works, but at the same time having only limited opportunity to do so. Case offiers’ relationship to the implementation process is therefore more complex than that of managers. By identifying the locations where the subordinating practices occur (for example, the division of labour, the hierarchy, work routines, and so on), one can also see how work, IT, and skills become intertwined in the advent of IT and the related organizational changes in public administration.

In some sense this study is in line with IS research covering computerization of work in the early 1970ies, where effects on work organization, professional roles and competence were discussed (e.g., Ehn 1993, Nurminen 1988) when computers were implemented in organizations broadly. In contrast, the technology used to implement e-government today is, in many ways, more mature and advanced (in terms of multiple communication channels, different types of technologies in parallel handling errands, integration etc.). The use of technology is, on the other hand, more elementary in terms of, for example, the distribution of IT in office work and the basic IT competence among case officers, making introduction of upgraded or new technology in that sense less revolutionary. However, the intertwined relation between technology and work practice (in terms of roles, job content, competence, etc.) is as appropriate as ever to study (cf. Orlikowski 2007), regardless of what the initiative containing change of organization and technology is labelled. This aspect of sociomateriality makes us argue that these are very important studies to conduct within the public management field as well.

Compared with results from earlier studies there is, in this particular case, a significant difference concerning how the divisions of tasks are designed. The practical implementation of e-government in the shape of increased digitalization seems to either differentiate between either employees working in the same organizational settings or activities within different areas of specification according to the degree of performance specification, routines, operational freedom, and interaction with the general public in their daily working practices (compare Giritli Nygren 2010).

This paper reports from a single case study showing that citizens' increased use of public e-services not only implies changes for citizens (in terms of increased quality, efficiency and ease of use), but also for case officers working back-office; i.e., at the "inside of the e-service". We argue that this study indicates that these issues are important to focus in e-government research. The supply-side perspective (Millard et al. 2004, Reddick 2005) in current research efforts tends to highlight the potential of increased agency efficiency and service quality facilitated by e-government. These issues need to be complemented by more studies of how increased use of public e-services influence back-office work conditions. We have conducted one case study that indicates the importance of this perspective. In order to develop further knowledge on this theme we need to widen the scope and study several public agencies, professional groups and IT systems in use. Our findings are so far only illustrations of what seems to be an interesting new hybrid-organization. We have to continue this line of research with further studies in order to develop valid knowledge and understanding of how to handle the back-office perspective in e-government.

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