

**EGOS paper for sub-theme 63: Digital transformations: Technology, Organization and Governance in the Algorithmic Age**

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**The transformation of work in digitized public sector organizations**

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Digital technologies are said to profoundly reshape the organization and service of the public sector across the Western world (Dunleavy & Margetts, 2010). From the electronic handling of vast amounts of filework in the tax administration to robots in home care and smart boards at schools, digitization is an essential component of most government reforms. OECD continuously monitors its member states' progress with digitization, as digital technologies are considered a solution to 'big issues' such as high public spendure, ineffectiveness, and calls for transparency in public administration across the globe (OECD 2009). Scholars in the field of public administration refer to this as 'Digital-Era Governance' (Dunleavy, Margetts, Bastow, & Tinkler, 2006) or E-government (Bekkers & Homburg, 2005.).

But while digital technologies are currently central to the idea about the 'modernization' and 'efficiency improvement' of the public sector, little scholarly attention has been directed at how this agenda changes the coordination, conduct and control of core public services in public sector organizations (Buffat, 2015). We know very little about how work is transformed inside these organizations. In this paper we argue that it is vital to develop an understanding of the new conditions for working in increasingly digitized public sector organizations, not least because such changes might have important managerial and societal ramifications.

We claim that organization studies have not yet been sufficiently mobilized to understand the transformation of work in digitized public sector organizations. This is surprising because the research field of organization studies has a long and rich tradition for studying how technology and organization mutually affect or constitute each other (Zamutto et al., 2007). In organization studies, a mounting literature focuses on the impact of digital technologies in organizational settings

(Zuboff, 1988; Kallinikos, 2006; Orlikowski 2007; Carlile & Langley, 2013). These studies pay attention to the intertwining of the social and the technological in situated organisational practices and of prompt us to study ‘things in action’ (Latour, 1987) in specific empirical settings, and to pay particular attention to material and technological practices. If we assume that digitization is a multifaceted phenomenon (Buffat, 2015; Jæger & Löfgren, 2010; Lipsky, 2010), which reconfigures public sector organizations in fundamental ways and changes the daily work-life of public servants, we claim that such an orientation is a fruitful starting point for research on how digitization transforms crucial aspects of public sector organizations

A number of recent studies within this field focus particularly on digital technologies, including ICT, robots etc. A large part of these studies take an explicit non-deterministic and social-material approach. These studies emphasize that the implementation of digital technologies do not necessarily lead to specific outcomes because outcomes depend both on the organizational context and the users affected by the technologies, which make certain things possible. Several studies capture these dynamics by applying the concept of affordance (e.g. Zamutto et al., 2007; Petraki et al., 2016; Kallinikos et al., 2012). But few of these papers address how digitization affects the specific forms of organization that are central to public sector organizations.

The purpose of our paper is to critically review and discuss the existing literature on the digitization in organizations and suggest an outline for a potential research agenda within organisation studies, focusing particularly on the digitization of *public sector* organizations. We argue that there is a paradoxical shortcoming in the organization studies literature because so much of the literature insists that technologies, including digital technologies, can only be understood by taking their specific context into consideration. So if we assume that the way work is organized and performed in public sector organizations is significantly different from other types of organizations in certain respects, we need to examine how digitization affects public sector organizations and how digitization is, in turn, affected by specific forms of organization. In this paper we focus on organizational changes related to *bureaucracy*, *accountabilities* and *professional work relations*. We have chosen these three aspects of public organization for two reasons. First, we argue that all three aspects are performed differently in the public sector than in the private or the voluntary sectors. While *Bureaucracy* is to some degree a basic form of operating most organizations, it takes a special form in the public sector, because strict procedural handling of affairs is a way to secure equality and transparency in the public administration (du Gay 2000). Accountabilities also take different forms than in the private sector because the public sector handles communally shared resources, is supposed to do so in a responsible manner and are accountable to politically set goals as part of the democratic process. *Professional work relations* in the public sector differ from the

private sector because they to some degree are defined by a specific ethics of office, tied to public sector professions (Weber 1978). Secondly, we argue that these three aspects are undergoing changes due to ongoing public reforms – not least the digitalization agenda, which demands that parts of both case work, accountability work and professional work are moved to digitized systems.

The remainder of the paper is structured in the following way. First we unfold the argument that public sector organizations operate under specific conditions and that this issue is underexplored in the organization studies literature. We argue that organization studies may learn from public administration theory that digitization is currently changing the public sector in profound ways and is a phenomenon that deserves scholarly attention. We then review and discuss the organizations studies literature on organization and digital technology. Based on a literature search and close reading of the selected papers, we show that systematic analysis and theorization of digital technologies and organization in the public sector are absent in the field of organization studies. However, reading this literature with the themes of bureaucracy, accountability and professional relations in mind, we tease out how existing research indicates that digital technologies affect such organizational aspects. Next we argue that these aspects need to be studied in a more systematic manner to understand how digitization transforms work in public sector organizations. We thus propose an agenda for further research into the relationship between digitization and bureaucracy, accountability and professional relations.

### **Theoretical background**

Even though there is a rich research tradition on technology and organization in the research field of organization studies, recent literature reviews show a lack of organizational studies of how digitization changes organizational practices in the public sector (Andersen et al., 2010; Hardy & Williams, 2011; Heeks & Bailur, 2007). With few notable exceptions from organization and management studies (e.g. Chongthammakun & Jackson, 2012; Introna, Hayes, & Petrakaki, 2009; Pors, 2015; Veenswijk, 2005), public sector digitization has primarily been studied within the research field of public administration. This tradition theorizes the development of public service in light of big administrative reforms (Olsen, 2002; Peters, 2001), and tends to view digitization from a macro perspective as an innovative strategy for organizing public administration and service delivery (Lips, 2012). In this literature, the concepts of ‘E-government’ (Bekkers & Homburg, 2005) and ‘Digital-Era Governance’ (Dunleavy, Margetts, Bastow, & Tinkler, 2006) have been coined. An almost exclusively positive and optimistic view on digital technologies in the public sector is presented (Åkesson, Skålen, & Edvardsson, 2008) and the main problem is articulated as a matter of implementing digital technologies in the best way (Gil-García & Pardo, 2005; Henman,

2010; Kumar, Mukerji, Butt, & Persaud, 2007; Layne & Lee, 2001; Moon & Norris, 2005). A more critical public administration literature examines the digitized public sector with a focus on the changing relationship between the state and its citizens, but does so without assessing the organizational changes within the public sector organization itself. This strand of literature also tends to assume that digital technologies – by virtue of their design – push the development of the public sector in specific directions (e.g. Bonsón, Torres, Royo, & Flores, 2012; Linders, 2012; West, 2004). Public administration theory thus tends to treat organizations as recipients of strategies formed elsewhere to be implemented in the organization, and the question of how digitization reconfigures organizational practices is, to a large extent, blackboxed. We argue that organization studies may learn from public administration theory that digitization fundamentally change public sector organization in important ways. At the same time, organisation studies provide theoretical frameworks and vocabularies that make it possible to address questions about digitized, public organizations that are left unexplored in public administration theory.

We propose that general knowledge about the organizational implications of digitization is not necessarily true for public sector organizations. They operate under particular conditions; they are dependent on current policies, their purpose is partly given in advance, they are publicly funded, and their employees might have particular expectations to working in the public sector. To account for how digitization transforms work in this domain, we propose a research agenda informed *both* by the material turn in organization studies mentioned above *and* by the literatures in organizational studies that contribute to an understanding of the particular conditions of public sector organizations. The fact that public organizations are *dependent on current policies and public sector reforms* leads us to propose a focus on how their daily work – or bureaucracy as we know it – is reconfigured as part of digitization policies and reforms. The fact that public organizations are *publicly funded* has implications for their accountability in relation to users and the public, and we thus propose to look into how digital technologies have impact on accountability relations and control in public sector organizations. Finally, the fact that their employees may have well-established *expectations to what it means to be a public servant* leads us to propose a focus on how the changes brought about by digitization leads to changes in professional identities and relations.

## Methods

Our aim with the following literature review was to explore how public sector digitization has been discussed in the research field of Organization Studies. We conducted a literature search in the databases of five agenda setting organization journals, namely ‘Organization Science’, ‘Organization’, ‘Organization Studies’, ‘Human Relations’ and ‘Information & Organization’. We used each journal’s own online search engine and used the following search terms: digitization,

digitalization, ICT/information- and communication technology and IT/information technology and adjusted the criteria so the term could appear in the entire text (as opposed to only title, abstract and key words). One of the authors read through the abstracts and selected relevant papers for further study. At first, the first criteria for selection were that the papers were based on empirical studies and that the selected area of study was with the realm of the public sector. However, during the reading of abstracts it became evident that there were very few papers that met these criteria. Therefore, the investigation was expanded to cover other organizational forms and more theoretical approaches to the study of digitization. By the end of the read-through, it became evident that a few seminal papers on digitization that we knew beforehand had escaped the search and these were added. All three authors now read the papers more thoroughly, each author with the sub-area of either *bureaucracy*, *accountabilities* or *professional relations* in mind. The following analysis is structured thematically around these three themes. We introduce each of the three sections by fleshing out why and how we believe the theme to be important for our understanding of the transformation of work in the digitized public organization. We then discuss the few articles that inform us about the theme in question – teasing out some oftentimes rather implicit insights about digitization in relation to bureaucracy, accountability and professional relations. We focus mostly on the empirical studies of public sector organizations, but also relate to studies of private companies due to the scarcity of the first category of studies.

### **Digitization and Bureaucracy**

In organization studies, the word ‘bureaucracy’ refers to (at least) two conditions: First a specific way of structuring an organization according to ‘legal-rational’ principles, a hierarchical order and advancement based on skills and length of service (Boisot 2006). Sometimes the less precise term ‘formal structures’ or just ‘structures’ are used to describe this form of procedural organizing. The other condition refers more specifically to the *public* bureaucratic office. Here the word describes at once this same rational-legal way of structuring organizations *and* a ‘moral order’ attached to this office with ethical duty to rule obedience, impersonality and expertise in order to ensure fairness, probity and reliability in the treatment of cases (du Gay 2000).

The Public Administration literature has proposed that increased horizontal collaboration and data sharing between departments can be effective in solving specific tasks for the citizens and the state itself (Margetts 2009). But they do not treat the subject of what happens to the acclaimed virtues of the bureaucracy as an effect of the massive reorganizations. This is where organization studies could make a contribution. But so far, this tradition has also largely neglected how digitization affects public sector bureaucracies (in the latter meaning of the word). One reason may be the recent great interest in ‘informal organizing’. Organization scholars have increasingly emphasized

the importance of ‘culture’, ‘networks’, ‘feelings’, ‘materiality’ and ‘discourse’ as structuring work (Lopdrup-Hjorth 2014; du Gay and Vikkelsø 2012; Zammuto et.al 2007) and downplayed the aspects of more formal ways of organizing such as ‘technocratic’, ‘bureaucratic’ or ‘mechanistic’ arrangements (Alvesson & Wilmott 2002).

If we look into the sample of the present study, we find a small number of authors who do take an interest in the subject. They argue that even though the bureaucracy undergoes changes due to digitization, its basic structure is still very much present in daily organizing of work in the public sector. In his study of the British Library, Harris (2008) shows that despite an increased marketization several features of ‘classic’ bureaucratic organization remain, such as hierarchical management, legal-institutional enforced property rights, and even a trend towards the centralization of knowledge in the British Library databases. Boisot supports that argument (2006) as he maintains that public bureaucracies as rational-legal structures have proved to be a very strong institution, especially regarding the diffusion of knowledge in the public sector. Against that background, he ascertains that they will ‘survive’ in a digitized world. But he does propose that the increased data-transparency will alter the power relationship between the administration and citizens, thereby reinforcing a turn from ‘citizens’ to ‘customers’ (Boisot 2006: 246). Sørensen and Pica (2005) demonstrate how bureaucratic structures are constructed bottom-up in a case where the police establish strict structures for how and when to use mobile phone technology. By doing so, they transfer their procedural structuring of work into a work-reality shaped by ICT. These very different studies show how bureaucratic structures seem to prevail in a digitized public administration even if some propose that digitization could be connected to ‘the end of bureaucracy’ (Harris 2008). But they also point to the need for the simultaneous study of bureaucratic structure and ethics because digitization changes procedures, breaks down boundaries between market and state, and changes the view of the citizen.

That is also why it is interesting that the specific context of the public sector is not problematized in the rest of the texts in the sample – and that the majority of the papers on formal structures do not even have the public sector as the locus of study (see Bloomfield and McLean 2003; Constantinedes and Barrett 2006 and Argyres 1999 for exceptions). In that sense, these solely focus on the first meaning of ‘bureaucracy’ as described in the beginning of this section, namely the issue of (formal) organizational structures. One recurrent theme in the texts is the change of organizational boundaries due to ICT. Several authors (e.g. Zamutto et al 2007; Argyres 1999; Malhotra 2014; Yoo 2012; Winter et.al. 2014; Whelan and Theigland 2013; Thoresen 1997) argue that along with digitization also follows a blurring of boundaries between organizations or perhaps even a break-down of strict organizational boundaries as we know them, due to data-sharing, virtual

communication and new forms of coordination. A part of these papers (Winter et.al. 2014; Yoo 2012; Zamutto et.al 2007) are mainly concerned with the methodological implications for organization scholars. They encourage theoretical pluralism and close empirical investigations at the specific socio-technical arrangements in their organizational context in order to grasp how formal structures are challenged or withheld.

The other studies are more empirically focused and point to specific advantages and challenges in relation to digitization and formal structures. In his study of the B-2 'Stealth' bomber construction, Argyres (1999) argues that both hierarchy and trust is replaced by virtual communication technology and standardized technical 'grammar' among geographically distributed construction teams. Here, the move from face-to-face interactions to virtual coordination is portrayed as less difficult than we perhaps imagine. This point is supported by Malhotra and Majchrzak (2014) who argue that a technology's positive impact on coordination depends on whether the technology affords 'presence awareness', that is the ability for geographically distributed workers to deal with conflicts and other acute problems that may arise. Their conclusion is that instead of assuming negative impact on coordination by the introduction of distributed teams, scholars should look at the quality of the specific coordination technologies in question. Both Whelan and Theigland (2013) and Thoresen (1997) are more pessimistic in their assessment of digitization and formal structures. Whelan and Theigland (2013) look at the breakdown of boundaries from a fresh perspective. They argue that an 'information overload' threatens to overpower each organization and demonstrates how new professionals and new technologies solely engaged in sorting irrelevant information from relevant are introduced into the formal structure in order to secure the organization's survival. Thoresen (1997) shows how there is a long way between the idea of using an ICT to structure work and then the actual messy reality – at least in the Norwegian telecommunication operation business. While a new program is introduced in order to structure complex administration of sales across dispersed units, in reality the program is hardly used or used very differently than managers expected. Thoresen (1997) thus reminds us that the gap between plans and realities is also present when the case is very modern and carefully designed technologies.

The studies discussed point in very different directions. While all expose very useful observations, they also reveal a lack in our understanding of the effects of digitization on public bureaucracy. There is a need for more thorough empirical investigations of the interplay between political digitization strategies, formal bureaucratic structures and the inherent ethics of bureaucratic ways of organizing.

## Digitization and new accountabilities in the organization

The notions of bureaucracy, bureaucratic ethos and accountability are closely related (Du Gay, 2000) and it seems safe to assume that digitization not only affects bureaucratic structures, but also leads to new forms of accountabilities in public sector organizations. Public organizations are held accountable for their work with digitization and subjected to new forms of control that affect the organization in different ways. For instance, institutions such as The National Audit Office focuses increasingly on digitization projects in their performance audit reviews. Power (1997) points out that the audit society is characterized by organizations that are made “auditable” because of the increasing desire for checking performance and securing value for money in the public sector. This implies that more control mechanisms are installed at the organizational level aimed at making performance visible and measurable, and hence auditable. The organization is held accountable for its performance in the double sense of the term where it refers to being responsible for and being able to formally account for the organizational performance. According to Strathern, the phenomenon of accountability is how “the moral and the financial meet” in organizations today (Strathern, 2000: 1). This calls for investigations about how the digitization agenda changes control and accountability in the public organization. It is relevant to ask how accountabilities are redistributed if fundamental organizational procedures are digitized and professional judgement replaced by standardized and digitized solutions.

However, in our sample of articles only very few papers mention accountability and even fewer take this aspect into consideration in their analyses. A couple of studies bring attention to accountability aspects in the health care sector. Bloomfield and McLean (2003) examine how a new information system in the British health care sector affected the organization of mental health services. They illustrate this by drawing on a case study of a psychiatric department of a large hospital. Among other things, the information system implied an increased focus on documentation. Good practice no longer just had to be followed, but it had to be meticulously documented that it was in accordance with the standards of the system, and patients were called upon to self-report continuously. Bloomfield and McLean’s study shows that when an organization becomes physically dispersed because most patients are no longer in the hospital, the organization invents new ways of making the absent present. The information system becomes an important technology in this regard because it makes both patients and health professionals “visible and accountable” in specific ways (p. 68). This is seen as “opening up to surveillance, to inspection and audit” (p. 69). In a similar study of electronic patient record implementation in English National Health Service, Petrakaki et al. (2016) also argue that the new system enhanced visibility in the organization. Work practices and decision-making that had been invisible before became visible in the new system because new

kinds of information had to be stored electronically. A historical log was established by the system, which made it possible for both peers and external parties to control the health care professionals in new ways. The increased demands for documentation led to new kinds of accountability because different groups of healthcare professionals were now held accountable for complying with clinical standards for operating procedures and compliance could be checked at every moment (Pettrakaki et al. 2016, p. 219). This new horizontal visibility “afforded conformity to due clinical process from fear of making errors or omissions visible to peers” (ibid.)

None of these studies have their main focus is on accountability and they do not discuss theoretically how this particular aspect is changed when the healthcare sector is digitized. Still they show empirically that accountability relations change in the digitized empirical contexts described in the case studies. The vastly increased call for documentation of work practices and decisions externalizes professional accountability. It is not only a question of adhering to professional norms, but of documenting this in a particular way that is consistent with the system. The establishment of an audit trail becomes important and, as shown by both studies, this implies that professionals spend still more time on documentation and record keeping.

Bloomfield and MacLean (2003) and Pettrakaki et al. (2016) both draw on case studies from the public sector, but they do not discuss how this specific context affects their findings. In a case study from the automobile industry, Eriksson-Zetterquist et al. (2009) show how the implementation of a new e-business system also led to increased demands for reporting and documentation and, as a consequence, new forms of control: “The eBIZ goal of standardizing work processes was accomplished. The achievement of this goal also led to expanded forms of accountability and control since eBIZ made it possible to inspect and trace every step at every purchase at every moment” (Eriksson-Zetterquist et al., 2009, p. 1162). This description is in many ways similar to the accounts given of the health care sector given by Bloomfield and MacLean (2003) and Pettrakaki et al. (2016). However, if we assume that public sector accountability is fundamentally different from private sector accountability it remains to be examined further how digitization in the public sector affects public sector accountability more specifically.

### **Digitization and reconstructions of the public professional**

As the previous sections have indicated, the digitization of the public sector seems to change many classical tasks. Some tasks have simply disappeared and others have changed character. For instance, casework sometimes amounts to helping citizens help themselves online, and administrative planning has become a matter of correcting mistakes made by digital planning tools. With this change in the character of tasks might follow a change in professional identity (Abbott, 2014). But it is still largely unexplored what happens to professional identities in relation to the

phenomenon of digitization, and to employees' sense of meaning and work-satisfaction. It may be that public servants experience a sort of de-professionalization (Toren, 1975), or it may be they become detached from classical bureaucratic ethics and more attached to professional ideals in line with engaged project-managers or business leaders (Du Gay, 2009; Pors, 2015). It is thus relevant to investigate reconfigurations of professional identities among employees in organizations heavily affected by digitization, to shed light on working conditions and hence management conditions in the digital public sector.

Organization studies do offer empirical accounts of changes in professional relations and identities as a consequence of digitization. Some of these studies have been conducted in the private sector, but some of them stem from public sector organizations, particularly health care organizations. These accounts do not explicitly discuss their results in the light of the particularity of a public sector organization, but they do offer observations that are highly relevant to discuss as a basis for investigating and theorizing how the public professional is reconstructed in the digitized public organization.

Some studies investigate how the relation between the public professional and citizens has been altered with digitization, and discuss the implications for professional practices. We discussed the study about mental health services in the section above. The changes brought about by the 'virtualization' of mental care practices also have implications for professional identities and practices. When patients are no longer inside a physical building, health professionals need to keep track of them through an increased level of documentation in standardized formats. They become managers of information, and an important part of their job is an ongoing attempt to "secure a correspondence between the now fragmented (individualized) spaces and temporal ordering of patients' lives and the spatio-temporal organization of mental health services" (Bloomfield & McLean 2003: xx). Digitization is supposed to compensate for the fact that citizens and public professionals are no longer necessarily co-located, but studies highlight how time spent on information management takes away resources from face-to-face professional work.

A similar situation has arisen for librarians in book-free libraries (Boudreau et al 2014). When the library becomes virtual, it becomes more difficult for librarians to uphold the relation with citizens they had when they were 'custodians of the books'. Boudreau and colleagues studied how librarians felt compelled to work with redefining their tasks and professional identities when all material was digitized. When books were physical, librarians were also visible as someone to consult. As they shifted to an environment where information search happened on computers only, they were no longer recognized as relevant professionals to consult. They began to advertise their presence and the possibility of asking for help – but this resulted in a frustrating number of

directional or practical questions. The librarians were not interested in becoming clerical workers, so they chose to approach citizens online and put their professionalism to work there. The study thus both showed a change of tasks and ongoing work to redefine professionalism.

Besides the literature investigating changing relations *between public professionals and citizens*, there is a group of studies concerned with how digitization transforms professional roles and relations *between various types of professionals* as a result of new tasks and routines within organizations. For instance, the study of Electronic Patient Records discussed earlier also showed that when electronic requests and clinical information can suddenly travel across clinical boundaries, this restructures both professional work and power relations. Healthcare professional conduct becomes more standardized, professional autonomy becomes curtailed, and with new tasks, new roles are also established. With regards to the latter, for instance nurses experience an enlargement of their professional role because they become responsible for embedding technology in their work, monitoring data and ensuring proper patient care in this domain. At the same time, an established hierarchical relation between doctors and nurses is reinforced because doctors refuse to engage with technology, allowing themselves to consider it non-clinical practice. Interestingly, nurses' consent in undertaking doctors' tasks relating to digital technologies is not only interpreted as deriving from a submissive profession, but also as maintaining and enhancing nurses' professional identity – now extended to be “patient data custodians and curators” (Pettrakaki et al 2014: 220). In a study of the introduction of digital innovation (robotics) in a hospital pharmacy, it is similarly concluded that some professional groups are able to acquire more authority and prestige if they manage to interact with digital technology in smart ways (Barrett & Oborn 2012). In this study, pharmacists and technicians could use the technology in line with their professional interests, while assistant's schedules and work practices became very dependent on the technology and the technicians. These findings highlight how various professional groups relate differently to digital technologies. This also explains why accounts of the introduction of digital technologies are often accounts of struggles between different professionals, where some see technology as promising and some as disturbing (Constaninedes & Barrett 2006). A final example from the literature on digitization of public organizations similarly reports on changed practices and professional roles, but without mentioning a conflict dimension. The study reports on courtroom practices, where video-technology and online presence threw judges' well-established professional practices into question. When judges had to juggle with digital technologies while running the courtroom, this created a new range of observable and accountable facts, which they needed to deal with in new ways. The judges' struggles were not with other professionals, but with maintaining their professional status in an altered organizational setting.

If we turn to studies of private organizations, here is also some concern with the interaction between professional groups – and some studies are also focusing on loss of professional autonomy or identity. For instance, based on a case study of a car company, Eriksson-Zetterquist et al. (2009) show how the implementation of a new e-business system led to the deskilling of purchasers whose autonomy, discretion and status were diminished because their work tasks and relations to clients changed fundamentally as a consequence of the new system. Otherwise, a common theme in the literature is the difficulty of collaborating when communication is de-contextualized and (professional) groups are distributed physically. The digital technologies that seem most pertinent to investigate are groupware applications, and the literature points out how some professional groups have a harder time working with de-contextualized problems (Hayes 2001), how managers impose a virtual working environment on workers (Bailey et al 2012) and how distributed teams experience higher levels of conflict than other groups (Malhotra & Majchrazak 2014; Hinds & Bailey 2003). A few studies also point to the advantages of visualizing otherwise more obscure professional practices (Baralou & Tsoukas 2015) or point to how involvement and commitment may be a consequence of being connected via digital technologies (Symon & Pritchard 2014).

Across the organization studies that somehow treat altered professional relations and identities as a consequence of digitization, a common interest revolves around what we could call the virtualization of a range of practices. It is common to identify conflict and struggles as an outcome of collaborating on and around digital platforms. What seems very central to the studies of public sector organizations is professionals' move towards being information managers, and a lot of work to make sense of new professional roles, relations and identities. As we pointed out earlier, this emphasis on redefining the profession is not linked to the particularities of the empirical setting, namely the public sector organization.

### **Concluding discussion**

The purpose of this paper was to identify how organization studies can inspire a research agenda exploring the transformation of work in digitized public sector organizations. This was done through teasing out insights about digitization and changing bureaucracies, accountabilities and professional relations from a relatively small number of contributions.

The studies explicitly dealing with bureaucratic structures had a tendency to portray bureaucracy as being reproduced despite digitization. Furthermore, most of the studies discussed focused on formal structures, and none of them looked into how digitization might influence the ethics of bureaucracy and its promise of diligence and fairness or how it might interfere with bureaucratic work structures

in various ways. In relation to accountability, some empirical studies did illustrate how digitization had an impact on accountability relations in digitized organizations, but none of the studies had accountability as a central theme, just like none of them explicitly dealt with digitization and accountability in a public sector context. The theme of professional relations was somewhat more pervasive, and studies documented a concern with the development of the professions. The articulation of concerns across empirical sites is perhaps not surprising, since whole sectors of the state are dominated by particular professionals who encounter digitization simultaneously when for instance the school system, the health care system, or citizen service is digitized. Still, the literature does not reflect on the particularities of the public sector as the context of the phenomena it describes.

So throughout the analysis, we showed that the organization literature treats aspects of digitization in the public sector without problematizing the specific conditions that are tied to public sector organizations. We think it is telling that some of the papers from our sample reappear in all three analyses. It shows that neither bureaucratic structures, accountability relations nor professional identities have been treated as distinct analytical entities tied to the public sector. We propose that the three can indeed be treated as separate analytical objects, but that they easily overlap in practice and in empirical studies because they are connected by a *specific ethos of office, which is historically tied to the public sector and its professionals* (Weber 1978). According to du Gay (2008) this ethos is “...*a historically contingent and variable ‘life order’ constituting a distinctive ethical milieu in its own right, one whose practices of formalistic impersonality gave rise to certain substantive ethical goals*” (du Gay 2008: 338). This specific ethos is characterized by first a separation of the public administration from the political and civic sphere, second a commitment to the execution of the administration’s purpose and thirdly, for the public servants, ‘...*the dominance of formalistic impersonality...*’ (Weber 1978 I: 225; du Gay 2008).

Both bureaucratic structures, accountability relations and professional identities are embedded in this particular ethos. The formal bureaucratic structures mirror moral values such as merit, hierarchy and expertise in opposition to moral values of the polity and the civic sphere. The accountability relations are based on the trust in (and control of) public spending according to the purpose of the administration and public service is based on the conduct of professional work according to principles of impartiality and procedural treatment of cases (Du Gay 2000; 2008). This ethos has been challenged by political reforms such as ‘New Public Management’ (Osborne 2010) and ‘Responsive Government’ (DeLeon 2001). We argue here that digitization of the public sector in all its many forms may pose another challenge to the bureaucratic ethos. Following this line of thought, the digitization of the public sector should not be considered a technical project – or a

project, which is only about improving efficiency, freeing up resources and modernizing service delivery. Instead, digitization should be seen as another substantial reform driven by an unquestioned ‘digitization imperative’. We believe that presently, ideals about ‘a digital public sector’ lead to on-going articulations about transforming work practices in all public institutions, but with more attention to technical hindrances than to implications for core elements of the public sector, namely bureaucratic structures, accountability and professional identities.

As digitization of the public sector happens simultaneously across very large institutions – and not within single companies – it is relevant to study the transformation of work across the whole sector and pose ambitious questions about the organizational consequences of digitizing the public sector as such. In the private sector, digitization certainly also affects work practices, but probably more unevenly, as there is no top-down imposition of new digital technologies or work practices across organizations. We have argued that a research agenda on the transformation of work in the digitalized public sector should revolve around three themes: *How do digitization strategies change the bureaucracy and the work practices of public servants? How does digitization change control and accountabilities in public sector organizations? And How does digitization influence professional relations and identities in public sector organizations?* Empirical research addressing these questions would contribute with important knowledge to the research fields of public administration and organization studies. To public administration, it would provide called-for knowledge of how digitization transform core features of the daily public administration. To organization theory, it would offer insights into how digitization reconfigures bureaucracy, professions, and control and accountability in public sector organizations. The research agenda thus resonates with current calls for interrogations of how the rise of digital technology shape work practices and organization, management and governance arrangements – focusing on a particular type of empirical setting, the public sector, which is important to understand both from a societal and a public governance point of view.

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