Fine-tuning Sociotechnical Change in Digital Work

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1. Introduction

Digital transformation can bring benefits into a variety of business areas regardless of the size of the company, industry, or activity types and has major influence on people's daily life, both work and personal. This has led to new challenges, such as the reconfiguration of work due to the blending of personal and professional IT as well as the demand for new learning and leadership practices in everyday digital work (e.g., Vallo Hult and Byström 2021; Vallo Hult et al. 2021; Cuel et al. 2022). Digital transformation can be used to enable digital strategies aiming at accelerating internal business processes, eliminating inefficiencies, reducing costs or selling more, but these initiatives are not truly transformative - per se - for the organization (Soto-Acosta, 2020). In fact, the term digital transformation includes a large-scale change or transformation of the organization's business model through the use of new technologies. Digital transformation includes the introduction of new technologies for managing remote activities, such as during the pandemic, where direct contact was not possible (Akpan, Udoh, & Adebisi, 2020). Digital shared collaboration spaces increased drastically in popularity, as technologies such as SharePoint were vital for supporting creativity and cooperation at a distance (Morrison-Smith & Ruiz, 2020; Locoro & Ravarini, 2021). In the process of digital transformation, focusing only on the technological factor brings with it a limited value; as such an organization can be in possession of any type of technology but purchasing it is not enough. Instead the skills necessary to govern, adopt and deploy the chosen technology and the sociotechnical arrangement in-between those two aspects are vital for success (Behnam Tabrizi, 2019). Digital transformation, an imperative point for the future of organizations especially in the post-COVID-19 era, is more about the "people & talent" factor instead of the "technology" alone (Frankiewicz & Chamorro-Premuzic, 2020).

Thus, in this paper, we argue for the importance of a sociotechnical approach that takes into consideration the interplay between people and technologies in context. Our paper focuses on the potential of the sociotechnical approach to identify specific variables in a digital transformation that have a higher potential in enabling an effective change. We argue that digital transformation does not always require extraordinary efforts in terms of time and (financial, human, technological) resources. Rather, at least under certain conditions or within certain specific domains, digital transformation can be achieved thanks to small (in terms of efforts involved) initiatives, as long as they are dedicated precisely to modify some specific variables. We draw on two cases where digital technologies were introduced in a specific context of digital transformation of work practices: facilitating collaboration and document sharing through the use of Enterprise Content Systems in two different settings, i) the private sector (luxury fashion), and ii) the public sector (healthcare). We therefore pose this research question: *How can the socio-technical system be fine-tuned to enable digital transformation of work?* To do so, we draw on a two-folded theoretical lens of sociotechnical change infused with tuning.

2. Fine-tuning sociotechnical change

The sociotechnical approach is well known within Information Systems (IS) research and is based on the integral relationship between the social and technical systems. The social system consists of professionals and their practices, cultures and roles, while the technical system consists of the technologies that support the work processes of the social system (Islind, 2018). The sociotechnical approach was a response which aimed to overcome the opposition between technological and social determinism, but has been criticized for being an instrumental, normative tradition; also the actual impacts of the practices involved in socio-technical research have also been questioned over the years (e.g., Bjerknes and Bratteteig, 1995; Leonardi et al., 2012). In the first years of studies of technology the research focus was on altering the social practices to fit the technical system, whereas today the focus is more socio-technical. In organizational adoption of digital technologies the sociotechnical approach focuses on the relationship between humans and technology which is viewed as an interplay where both need to be carefully tailored and adapted, not merely the social system or the technical system (Leonardi et al., 2012). The sociotechnical approach, a core organizing concept, or "axis of cohesion" for IS research (Sarker et al., 2019), provides a central standpoint for the study of digital work.

Tuning is a robust analytical lens to understand "the dynamic nature of boundary resources in service systems" (Eaton et al., 2015, p. 221). The notion of tuning is originally from Pickering (1993), further developed by Eaton et al. (2015) into an approach of distributed tuning. Based on an embedded case study analysis from Apple, their iOS service system and third-party developers, they offer a process model that accounts for the power-oriented dynamics of boundary resources: "distributed tuning emerges from ongoing tensions among dispersed heterogeneous actors who deal with a set of technology artifacts in a network" (Eaton et al., 2015, p. 235). They note that there is a power dimension in the relationship between the actors, where there is not an equal degree of agency over both material and other actors in the service system (Eaton et al., 2015). Islind et al. (2016) extended the lens to include *fine-tuning* as a conceptual framing, drawing on the relevance of small sociotechnical changes. Fine-tuning, as opposed to distributed tuning, focuses on small alterations and adaptations done to respond to changes in the sociotechnical system (Islind et al., 2016). Drawing on the combinatory lens of sociotechnical change, infused with fine-tuning of sociotechnical systems, we now want to elaborate on our case studies.

3. Illustrative cases

In this paper, we draw on a comparative case study of two organizations (Yin 2013). The research approach is qualitative, and the research design is informed by an engaged approach in both cases. The empirical data consists of multiple sources, including interviews, meetings, participating observations and project documentation. The cases in this idea paper are used for illustrative purposes, for driving the theoretical development of fine-tuning sociotechnical change in digital work. The data analysis was done through a comparison of the empirical data, to identify and analyze socio-technical challenges and tensions and ways in which these challenges and tensions were addressed. We also triangulated the findings from the two cases. The two cases refer to digital transformation initiatives that had a significant impact on work in two different organizations: a manufacturer in the fashion industry, and a hospital. Both initiatives took place between 2020 and 2021 and concerned the adoption of an Enterprise Collaboration System (ECS), a type of cross-functional information system meant to improve

communication, coordination, and collaboration between team members and work groups. An ECS can include hardware, software, internal and external networks, and involves people, processes and organizational aspects that contribute to make people work more efficiently, collaborating together in real-time using the internet (Koceska & Koceski 2020).

3.1 Case 1: the fashion company case study

XYZ is a company renowned in the luxury fashion sector for its production of footwear, bags, accessories, and clothing. In June 2020, after several months of lockdown, XYZ faced serious problems related to remote work, especially with regard to document sharing, collaboration and internal communication. Simply put, the organization was experiencing a phase of confusion, apparently due to the adoption of different software applications supporting employees to work from home:

"We had introduced Teams before the pandemic broke out, however, the tool had been used by few and mainly for its chat functions. When we found ourselves forced to change our work habits, some employees used Teams, others WhatsApp for chats and phone calls, and then WeTransfer or Google Drive for exchanging and sharing documents. A babel of tools outside the control of the company, in which it was difficult to make order and guarantee information security." (Corporate Human Resources Manager at XYZ).

To get over this situation a key intuition of the top management was to realize that the issue to deal with was not merely the adoption of new software, but the development of what the HR manager called a: *"Modern workplace with Microsoft Teams."* To this aim XYZ designed and implemented a journey of change management towards a new way of working and collaborating. After having selected Microsoft Teams as the ECS of choice to support the creation of homogeneous and standardized collaboration tasks, the focus shifted to the analysis of the employees' digital skills. A small set of workers with a high level of digital familiarity and most inclined to digital collaboration were identified as "Internal Champions as engines of corporate change." Through an intense training activity on the software tool, they acquired the necessary skills to subsequently act as coaches and internal consultants towards their colleagues. They became the testimonials of the digital transformation taking place towards all other employees and XYZ's partners. At first, the coaching was addressed to the first-line workers of the 10 flagship stores located all over the world, then this process proceeded involving the rest of the organization. The result was a gradual adoption of Microsoft Teams in the different company departments and physical stores, leading employees to abandon the different tools previously used to call, collaborate and share documents towards a single platform, favoring the standardization of collaboration tasks and improving the management and control of activities. Training through the Champions allowed XYZ to spread the culture of corporate change, initiated by the adoption of the ECS, allowing employees to understand the potential and the advantages deriving from collaboration enabled by an application that, although already present in the organization, had never been systematically used thus had never led to develop *digital work* practices at XYZ.

3.2 Case 2: the Hospital

The hospital is one of the larger Swedish hospitals with approximately 5,400 employees, mainly healthcare professionals, but also knowledge workers in various functions. This study was conducted as part of the renewal of existing technology for collaboration and document management through the introduction of cloud-based platforms and services. The findings draw from empirical data from a project focusing specifically on the integration of Office 365

and Sharepoint team sites during 2020. Over recent years, several projects have been initiated throughout the region with a focus on facilitating digital ways of working, in terms of remote work and teamwork, with support for knowledge sharing and collaboration. These developments are highlighted even more in the present context of the pandemic COVID-19.

One initiative (i) concerns the transition to digital document management, on a new system, which aims to provide support for a document throughout its entire life cycle, from working material to archiving, in a secure way that follows all the legal requirements for document management in the public sector and the region's policy for digitization. Another initiative (ii) concerns the introduction of a new social intranet, a digital workplace, where the emphasis is on access to services needed for everyday work (i.e., focus is on solving tasks, not reading information), along with a collection of tools and services that enable collaboration, communication and mobile ways of working. SharePoint is the foundational system and platform for both purposes. The difference is that the social intranet is built around Office 365 online, and cloud-based services for document sharing and digital collaboration, whereas the digital document management system requires storage, mainly on internal servers (OnPrem), to ensure higher levels of security and legal demands. A new agreement in 2020, led to changes in the license model for all hospitals and other administrations. The change means, among other things, that the costs for program licenses at the hospital will be reduced, while at the same time, the change enables new digital ways of working because all employees now have access to Office365 online, and the accompanying access to additional programs and services. Due to this, the hospital decided to implement an adapted integration of SharePoint teamsites, as a 'fast track', to support new user needs emerging from the abovementioned changes in the licensing model. Specifically, the aim was to ensure that those with basic rights (i.e., who only have access to the online, cloud-based version of Office) could continue to work with shared documents needed for daily routines, in a secure manner.

4. Discussion and concluding remarks

The pandemic has been the catalyst for the transition to new technologies and for the digitization of some organizational processes, favoring their development and overcoming the doubts and initial obstacles that the management of many companies had about large-scale technological transitions. The lockdown and social distancing measures led to a change in the way employees work and collaborate, through the indiscriminate use of video-call applications, for project management, file sharing and other tasks requiring communication. The transformation induced by the sudden adoption of these technologies did not have space for large-scale actions to promote change, but rather called for a fine-tuning of both the social and technical system. The virtual collaboration channels appear not yet able to replicate the work environments' atmosphere that aims to stimulate creativity, learning and knowledge sharing, while, besides being a useful mean to enable remote working, they have also removed the barriers between people located in different geographical areas or departments (Waizenegger, McKenna, Cai, & Bendz, 2020). Lowering the barriers has also included fine-tuning.

As illustrated in this paper, collaboration spaces enable effective digital work, connectivity, co-creation and sharing of knowledge. While the transition to digital work practices is often described as transformative and disruptive, we argue that it can rather be an evolutionary process of fine-tuning specific variables. In this paper we focused on the concept of fine-tuning for exploring how to address change in digital transformation processes from a sociotechnical perspective. The current work is based on preliminary evidence from two empirical cases of digital transformation projects undertaken by two different organizations to address the

difficulty that the pandemic brough to face to face work. The paper represents an initial step into a research project that aims at deepening the study of fine-tuning sociotechnical change with improved and triangulated empirical evidences, and more profound in- and cross-case analysis to explore conditions and processes that afford fine-tuning sociotechnical change in digital transformation processes.

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