Supporting Election Work: Infrastructures for Knowledge Sharing

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Abstract. Our research project has investigated through qualitative studies the collaborative work practices involved in organizing elections in a Danish municipality. One of our findings is that the organization of elections is a knowledge-intensive practice relying significantly on the work of non-experts. In this position paper, we highlight the potential role of information infrastructures to support knowledge sharing.

Background

In the last decade, many countries have shown a growing interest in digitalizing elections, particularly through the use of e-voting technologies. In this context, the DemTech research project (www.demtech.dk) has been established in order to test whether it is possible to digitalize the electoral process while balancing the trust of the people on the trustworthiness of the deployed technology. In Denmark, the discussion about implementing e-voting technologies has been put aside, at least for the time being. The law for permitting experimentations with e-voting technologies has been turned down by the Danish parliament. Consequently, our research focus has shifted from how to design trustworthy e-voting machines to which parts of the electoral apparatus would benefit from some sort of digitalization. After all, elections are composed of, not only election day—where the voter cast their ballot—but also a long and complicated chain of procedures and processes (e.g., ordering election material, organizing advance voting, training employees, setting up polling stations, etc.). Some of these processes are already supported by different technologies (e.g. generating the voters register),

while others are far from being digitalized. One of the areas where technology can potentially support the process of organizing election is in developing and maintaining infrastructures for knowledge sharing.

Current Work

The focus of our work has not been so much on civic engagement per-se, as we are investigating the collaborative practices involved in the organization of elections, performed predominantly by municipal workers, but also by civil volunteers and representatives from political parties. Thus, our interest lies in cooperative technologies supporting election work. Specifically, we have identified that one of the major challenges in organizing elections is the maintenance of electoral capability and expertise between each election, which are characteristically disruptive and transient events. Because of the time lapse between two elections (e.g. two-four years), many of the municipal workers responsible for organizing elections feel that they have to start all over again: gather the right experts who participated in previous elections, collect their knowledge, assemble it in folders and spread it to the different teams, etc.

To ease the transition between elections and facilitate the sharing of knowledge and expertise, we provide reflections about enhancing the current information infrastructure of Copenhagen Municipality to support election work. We see infrastructures as shared resources; they are open and heterogeneous, and they contain different components that are integrated through standardized interfaces (Star and Ruhleder 1994; Monteiro et al. 2013). A repository which will enable storing and organizing different kinds of information and artifacts (guidelines, laws, manuals, videos, etc.) could be one component of such an infrastructure. We argue that a CSCW informed modification of the current assemblage of heterogeneous information artifacts and work practices could be fruitful for developing, maintaining, and sharing electoral knowledge across the various actors involved in organizing the different elections. We draw upon an ongoing ethnographic investigation we conducted at Copenhagen Municipality which is now in the process of designing an intranet solution, moving away from a centralized approach where knowledge is located only in the hands of a few municipal workers to a distributed approach to knowledge where knowledge is delegated across the vast amount of people that participate in organizing elections.

Relations with CSCW

Election work is a new and fertile empirical domain within the field of CSCW. However, the topic of knowledge sharing (Pipek et al. 2011; Ackerman et al. 2013) has been a key in this community. Most studies on knowledge sharing within CSCW tend to focus on routine work and the practice of experts, for example, health care workers, aircraft repair work (Spence and Reddy 2011; Pipek et al. 2011; Ackerman et al. 2013), software knowledge work, IBM,

consultancy work (Orlikowski 2002), etc. What is interesting in our case, is that although organizing elections can be characterized as a knowledge-intensive practice, it most often depends on the work of neophytes, and a few experts whose expertise has eroded over time. Thus, our interest lies in how the distributed nature of knowledge matters for collaboration in election work spanning not only organizational and cultural boundaries, but also, different actors, geographical boundaries, etc. Another problematic related to the transient nature of elections is that election work cannot be routinized (that is, become routine work) in the traditional sense since a long period can pass between each election, making it difficult, if not impossible, for election workers to remember what they did last time.

Therefore, Copenhagen municipality's initiative for building an infrastructure for knowledge sharing is indeed a promising one. A solid infrastructure brings about some new possibilities, for e.g., with its incorporation of different formats (e.g., pictures and videos) something, which was not possible with the paper-based infrastructure and can facilitate learning. Furthermore, a digital repository can also allow easier maintenance and reuse of information, something which is crucial for elections. However, it can also raise various questions about informal knowledge, improvisation, and other crucial skills that are used when organizing elections. In this workshop, we wish to discuss further the development of information infrastructures dedicated to knowledge sharing in the context of election work.

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