Chapter 6

“Whatever Works”: Making Sense of Information Quality on Information System Artifacts

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ABSTRACT

This chapter addresses the general problem of how to design and deploy effective computational tools that support actors of an organization domain in making sense of the information these manage by means of those tools and technologies. To this aim, the chapter recognizes the complementary, but sometimes also diverging, approach of two related disciplines, Computer Supported Cooperative Work (CSCW), and Information Systems (IS). Contributions from both these academic communities are put in a common perspective to discuss a comprehensive solution to the apparently incompatible requirements of different communities of users that use the same information for different purposes. The authors take the theme of quality information standards, requirements, and users’ expectations in information-intensive domains such as healthcare and hospital work as a paradigmatic case to discuss the characteristics of their proposal. This encompasses the conceptualization of a general-purpose architecture that they devised to support adequate exploitation by human actors of informative resources regarding how they perform their job and articulate their actions with others; and a specialized design-oriented construct, called Affording Mechanism (AM). An AM is a dyad composed by an artifact (i.e., the schema of a material information tool) and a dynamic relationship between the context of use and the artifact’s affordances. AM relationships are expressed in terms of computable if-then statements that modulate the affordances conveyed through and by the artifact to evoke a “positive” and knowledgeable reaction in the actors’ behavior. On the basis of observations performed in the hospital domain, the chapter discusses in a coherent constructivist light the role of artifacts and derives a set of general requirements for affording mechanisms that support situated behaviors.

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INTRODUCTION

The introduction of an information technology within an organization involves two main aspects: the management of the information that supports the activities by which the organization fulfills its mission and the coordination of these activities in order to make their execution smooth and effective. Two academic fields have contributed to the definition of different and often complementary approaches that deal with the two aspects mentioned above: Information Systems (IS) and Computer Supported Cooperative Work (CSCW). Although the object of interest of these disciplines is often the same, i.e., supporting the organization as a socio-technical system through the comprehension of its “functioning,” scholars that feel themselves closer to one of either fields look at information technology in organizations and at how it is conceived from substantially different and complementary perspectives.

Both IS and CSCW show the combination of technological concerns with the outcomes of disciplines oriented to the understanding of the setting in which the technology has to operate: Social Sciences for CSCW; Organizational Studies for IS. While in CSW there is a uniform agreement about the unavoidable strong relationship between technological design and the sociological field research that informs it, in IS the separation between technology design and organizational studies is much stronger since they are at most considered as complementary but still with abstract suggestions on how this should happen (Orlikowski & Barley, 2001) or on how organizational studies should take the technological issues more systematically (Orlikowski & Iacono, 2001). Another fundamental difference is the point of view from which the organization is looked at: CSCW focuses on users as the sole source of knowledge about the cooperative settings and its needs; on the other hand, IS focuses mainly on management, and when it recognizes a role for end-users, it sees them mainly as one of the possible stakeholders at play, or “social actors,” as called by Lamb and Kling (2003); these authors tried to bridge the perspectives of CSCW and IS together, but still we believe they also underestimated the differences at play. Now, the question is whether CSCW and IS can coexist both conceptually and technologically. In regard to the conceptual level, the question is about the existence of sociological and organizational approaches that are compatible, while their specific domain of investigation is properly recognized. We leave the answer to the scholars of these disciplines: as designers, we can only advocate a positive answer and claim that the two disciplines can contribute to define a common vision of ICT where the management and end-users’ perspectives can be reconciled with the same level of relevance. This chapter deals with the technological perspective, discussing architectural details only marginally but rather focusing on the concept of information quality: this means looking at the value of technological solutions through the requirements and needs that are contextually expressed by both the end-users and the management of an organization.

In order to build a bridge between IS and CSCW, which have so far had a lesser mutual influence than desirable, our main aim is to outline an approach that offers the positive contribution of both perspectives and tries to overcome some of the limits that can be observed when an information system is deployed in real organizations also to support work processes and collaboration. In this effort, we leave out the focus on information management that is patrimony of the IS field and concentrate on the issues related to collaboration and task coordination. To this aim, we start from the conceptualization of work that is common to both IS and CSCW research—work is an intrinsically (and probably irreducible) social phenomenon—and argument that nevertheless the phenomenon of collaboration is conceived differently in these two fields. This will bring us to reconsider the role of “artifacts” in organizations (for informative and coordinative purposes), by distinguishing between
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