Chapter II

Featuring Technology in Studies of E-Collaboration Technology Effects

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Abstract

For the 2005 launch of the International Journal of e-Collaboration I wrote an essay in response to Orlikowski and Iacono’s (2001) call for enhanced theorization of the IT artifact. Specifically, I set out to develop a “tool view” of IT, arguing that this perspective was deeply engrained in the IS worldview, but poorly conceptualized. In what I called “the technology-shaping perspective”, I hypothesized that, although IT does not determine outcomes, the use of IT might be associated probabilistically with patterns of consequences that can be attributed to the material features of IT. Technologies pose problems for users who want to use them for particular goals; the solutions users arrive at for those problems during recurrent IT use may exhibit certain regularities across different contexts. Consequently, small differences in the features of apparently similar tools could be associated with variations in usage patterns and social outcomes. I gave examples to illustrate the argument and explained that, despite hundreds of studies of group support systems, the technology-shaping hypothesis has not yet been tested. Since the article was written, I have
received comments from a number of colleagues. I have continued to explore the ideas proposed in the article, concluding that the development task is bigger than I thought at that time—but still worth pursuing. Because I have not yet resolved the issues to my satisfaction, this chapter does not represent a comprehensive revision. Instead, the chapter contains a few updates, many annotations, and a postscript in response to some of the readers' comments.

Introduction

The point of departure for this chapter is Orlikowski and Iacono (2001)’s observation that the IS field has not sufficiently engaged the problematic nature of its subject matter. Orlikowski and Iacono (2001) analyzed conceptualizations of IT in articles published in a leading IS journal. They found that descriptions of the IT artifact were absent in 25% of the articles and that the remaining articles exhibited many specific conceptualizations, which they grouped into four categories. Two categories are particularly relevant here: the tool view and the ensemble view. The “tool” view, described as “the common, received wisdom about what technology is and means” (p. 123), was present in 20% of the articles in the journal they examined. The “ensemble” view, to which Orlikowski and Iacono have both made highly important contributions, views technology as only one element in a package of resources; this view was found in 13% of the articles in their analysis.

Orlikowski and Iacono (2001) concluded that more work needs to be done to theorize the subject matter of the field, so that it does not “disappear from view, [become] taken for granted, or [be] presumed to be unproblematic” (p. 121). Although they acknowledged that “no single, one-size-fits-all conceptualization of technology … will work for all studies” (p. 131), they offered five premises as a starting point for further theorizing. These premises included the non-neutrality of IT artifacts, their embeddedness in space, time, and context, their multiplicity of components, their dynamism, and so forth.

What Orlikowski and Iacono (2001) neglected to point out is that those five premises are accepted cornerstones of the ensemble view, a class of IT artifact conceptualizations that is well articulated in the IS literature. Those premises might not, however, be appropriate for other views, such as the tool view.

The premises of the ensemble view are well understood, but those of the tool view are less so. Perhaps because the tool view has always been so deeply engrained in the IS worldview, its proponents have rarely found it necessary to clearly articulate their assumptions. By contrast, researchers who advocated alternative (i.e., ensemble) views (e.g., Lamb et al., 2003, Kling & Scacchi, 1992, Kling & Iacono, 1988, Orlikowski, 1992; Orlikowski, 2000; DeSanctis & Poole, 1994; Poole &
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