

Abstract

Boundary objects and boundary agents: A video-based study of the emergence, evolution, and embodiment of knowledge across organizational boundaries

On the factory floor, in the science lab, and the corporate boardroom, people depend upon blueprints, models, and artifacts to know, understand and remember. In his anthropological work on laboratory science, Bruno Latour (1987) used the term “immutable mobiles” to describe how representations, such as maps and architectural drawings, make information both portable and permanent. Sociologist Leigh Star (1989) coined the term “boundary objects” to describe the things (including representations) around which knowledge workers cluster in contemporary organizations. Boundary objects extend our ability to display and share complex information, and to communicate across the boundaries of time and distance, as well as the boundaries of organizational roles, disciplines, and methodologies (e.g., Carlile, 2004). Scholars across disciplines—including situated cognition, distributed cognition, organizational learning, computer-supported collaboration, and knowledge management—are supporting an effort to improve these boundary objects.

This paper is about *boundary agents*. Those who have studied the situated use of boundary objects have usually acknowledged the important role of people in making these objects locally meaningful. For example, Star notes that some knowledge workers (“tall, thin people” or “wizards”) are especially adept at taking boundary objects across multiple layers of organizations (1995, pp. 106-107). Even science historian Davis Baird, who makes the strong claim that knowledge actually resides in scientific models and

mechanisms (he uses the term “thing knowledge”), acknowledges the role of dialogic humans—speaking, writing, “creating objective epistemological objects in the process” (2004, p. 130). Despite these acknowledgements, researchers have not sufficiently examined the moment-to-moment behaviors of these “tall, thin people.” The present study helps fill this gap through a single-case analysis of a product-development process. We show how boundary agents bring boundary objects to life through such social-cognitive practices as (1) animation—objects may be literally flat and motionless until boundary agents give them depth, movement and emotional energy; and (2) identification—agents help objects speak with a political voice that resonates with a group’s values and investments. Overwhelmingly, the work on knowledge management is info-centric; however, boundary agents do not merely explain objects; they get others to believe in them, invest in them, and see them as more remarkable than they are.

In addition, the present study demonstrates a research methodology that is ideally suited for the study of knowledge work—the nexus of people and things in the creation and sharing of ideas. Sometimes called video-based ethnography (Heath & Hindmarsh, 2002), this methodology features ethnographically-informed claims that are rigorously grounded in the empirical details of a videotaped record (Streeck & Mehus, 2005). We analyze recordings of boundary agents interacting with other people, who collaborate around boundary objects. We examine the form and function of natural behaviors situated within their natural environments. This approach contrasts with research traditions that (1) depend upon survey and self-report data, which are steps removed from original behavior; or (2) remove people from their natural environment for the purpose of laboratory study. In contrast to discourse analytic methods that isolate and privilege talk,

our approach attends to the orchestration of both vocal and visible behaviors within their material surround (Jones & LeBaron, 2002).

References

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