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# Context matters: Towards a concept of the organizational information environment

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## Abstract:

One of the core assumptions of social and organizational informatics (SI/OI) is that “context matters.” However, despite its importance in SI/OI, the composition of this context is largely unexamined. For the purposes of research and theorizing, how are we to think about the social context within which information and communication technologies (ICTs) are designed, developed, implemented, and used? This paper is a brief attempt to unpack this concept and decompose it into its constituent elements. This paper presents an outline of a structurational framework that recasts the context as an “organizational information environment” (OIE), clarifying a base from which the social implications of the assumption that context matters in ICT design and use may be explored.

## I. Introduction

Many people’s work is becoming increasingly reliant on the social and technical infrastructures that support the creation, dissemination, and use of digital information. Recent advances in networking technologies are bringing this infrastructure into other major social institutions, notably the schools and the home. When considering how ICTs are developed and used, many SI/OI researchers have moved away from both technological and socio-economic determinisms and towards a conception of the “seamless web of technology and society” (Pinch and Bijker, 1994; 10; Kling, Rosenbaum, and Hert; 1998). ICTs are seen as deeply embedded in social and organizational contexts in a relationship of mutual shaping (Kling, 1999, 1996; 27; Orlikowski and Baroudi, 1991; 12, Bijker, 1993; 119).

Clearly, one of the core assumptions of SI/OI is that “context matters.” However, despite its importance to research and theorizing in SI/OI, the composition of this context is largely unexamined. Is it sufficient to describe this context as an “information world” (Chatman, 1998) or an “information use environment” (Taylor, 1991; Choo, 1998). Is it best thought of as a sphere of “information resources employed by an individual, organization or institution or other group in order to solve problems, learn, play, and work” (Neuman, Bowker, and Star, 1997)?

This paper argues that a useful conceptualization of the social context of ICTs is as an OIE. Based on an

integration of the work of Taylor (1991) and Giddens (1979, 1984), this paper proposes a structurational framework for the OIE. Taylor’s (1991) concept of the information use environment is used because it focuses on the organizational environment in “information terms,” emphasizing the importance of “organizations, people, and problems in ways that are useful to the design of information systems and to the understanding of the interface between system and human user” (1991, 24; 1986, 15). The structurational approach is used because it is “a highly useful framework for the analysis of organizations” (Mills and Murgatroyd (1991; 12). It seeks to “illuminate the concrete processes of social life” by focusing on “practical activities of human agents in particular historical, cultural, and institutional contexts” (Giddens, 1984; 219, 1979; Orlikowski and Yates, 1996; 541).

## II. The organizational information environment

Using a structurational approach, an organization is a “decision making unit” with flexible boundaries within which members make use of sets of rules and resources to coordinate other members’ activities (Giddens, 1984; 203). An organization is both an ongoing creation of the people who interact within its boundaries and the medium which makes their interactions possible. In structurational terms, the OIE is a component of organizational structure and is composed of the rules and resources that make possible the persistence of information-based social practices over time and across space (Rosenbaum, 1996) and the typical problems and problem resolutions that are found in the organizational setting (Taylor, 1991). The OIE is defined as follows:

- *Organizational information environment*: a component of organizational structure composed of rules and resources which affect information flow into through, and out of the organization and from which emerge potential criteria used to value information, typical information-based problems faced by organizational members, and acceptable resolutions to those problems.

It has the following components:

- *Rule*: a generalizable procedure or technique that can be used to form, sustain, change, terminate, and recreate information behaviors;
- *Resource*: a social or material element of the organizational setting that can be used to carry out

information behaviors; resources allow command over objects and processes (allocative) and people (authoritative);

- *Problematic situation*: some portion of a manager's experience that is attended to and given boundaries by a manager, who labels it as a single entity that requires attention and possible action and which centers on information; and
- *Problem resolution*: when that portion of the manager's experience that gave rise to the problematic situation no longer requires attention and action.

The elements which constitute the OIE can be social, technical, or material, and will have their most profound effects at group rather than at individual levels (Taylor, 1991; 24). All impose constraints on and provide opportunities for the enactment of information behaviors of users because the organization "sets the context for the use of information" (Taylor, 1991; 36).

The OIE is dynamic, and changes in response to the appearance of new information and to people's actions and interactions within it. The OIE organizes information behaviors by influencing the flow of information and by providing criteria for determining the value of information. Consequently, it is an element of organizational structure, because it is organizing the routine social practices of people who act and interact within the OIE, influencing and shaping people's and uses of ICTs and their information producing, seeking, valuing, and use behaviors.

The OIE is a product of situated information behaviors and, when instantiated in routine social interaction, it has constraining and enabling effects on organizational members. It allows for the reproduction of information behaviors across time and space because its elements are invoked by people as they engage in information behaviors. Thus, the OIE is implicated in the duality of structure, the reproduction of information behaviors, and the structuration of organizations, having "no existence independent of the knowledge that agents have about what they do in their day-to-day activity" (Giddens, 1984; 26).

Consequently, the OIE is implicated in the structuration of organizations. As people design, implement, and use ICTs and engage in other information behaviors, they intentionally and unintentionally draw upon and make use of the rules and resources of the IUE, simultaneously reproducing these elements as conditions which allow them to engage in information-based social practices. For example, valuing, as an information behavior, makes use of those rules of the OIE which set a range within which types of

information are considered acceptable and valuable, or unacceptable and provide sets of criteria which can be invoked during the valuing of information. By drawing upon and using these rules, users transform them from virtual to actual existence, making possible the information behavior of valuing and reproducing the rules during the occasions of their use, ensuring their persistence over time. The transformation, use, and reproduction of the rules of the OIE are accomplished routinely in social interaction, typically as unintended consequences of action, which, according to Giddens (1984; 14), "form the unacknowledged conditions of further action."

The structurational conception of the OIE raises a number of intriguing questions which center on the implications of the assumption that the social context of ICT design and use matters.

- What is the range of configurations of rules, resources, problems, and problem resolutions in organizations?
- How do these configurations affect the design, implementation and use of ICTs?
- What are the information behaviors that make a difference in changing the OIE?
- How are organizational structures, processes, work routines, management practices and the exercise of power changed by the changes in the OIE?

The assumption that the context, here presented as the OIE, affects and is affected by ICT design, implementation and use is an important element of the core assumptions of SI/OI research and theorizing. It will have profound effects on organizational structure and practice, and it is incumbent upon researchers interested in information, information technology, and organizations to begin to account for this phenomenon in theoretical and empirical terms.

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