Chapter XIII

Structuration Theory in Information Systems Research: Methods and Controversies

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ABSTRACT

Numerous scholars in the information systems field have formulated variants of structuration theory in order to extend some of its basic constructs to information-technology-related phenomena and contexts. Along with this theoretical formulation has grown an extensive empirical literature. Here we take stock of the empirical research on structuration in IS to consider the requirements and options inherent to rigorous IS research that employs a structuration lens. The conceptual relationships presented in structuration theories of IS imply a set of seven requirements for a full-blown program of empirical study; we outline these requirements. We identify five sets of choices that researchers have as they design specific studies and the options available within these choice sets. We then summarize the empirical work in IS to date

in terms of major methods that have been applied—case studies, direct observation, experiments, and surveys. We evaluate the relative strength of these methods in light of the requirements and options outlined earlier. We discuss important methodological controversies and directions and emphasize the potential power of adopting an interlocking, comprehensive set of research approaches when studying structuration in IS.

INTRODUCTION

Of the many theoretical paradigms influencing information systems research over the past decade or more, structuration theory has been one of the most influential—and the most controversial. A recent review by Pozzebon and Pinsonneault (2002) of IS-related articles identified 116 articles published between 1985 and 2000 that referenced structuration theory. Structuration theory has influenced theorizing about phenomena as far-reaching as systems development (Newman & Robey, 1992; Stein & Vandenbosch, 1996), systems failure (McCartt & Rohrbaugh, 1995), virtual teams (Boczkowski, 1999; Majchrzak, Rice, Malhotra, King, & Ba, 2000), online relationships (Chidambaram, 1996), technology mediation (Miranda & Bostrom, 1999; Orlikowski, Yates, Okamura, & Fujimoto, 1995), and implementation of new information systems (Brooks, 1997; Karsten, 1995; Orlikowski, 1993; Robey & Sahay, 1996; Volkoff, 1999).

Structuration theory has been popular in the broader field of organization studies as well, attracting attention for its ability to yield insight into group decision making (Poole, Seibold, & McPhee, 1985), organizational communication (Fulk, 1993; Heracleous & Hendry, 2000), social network formation (Sydow & Windeler, 1998), organizational learning and knowledge management (Browning, Sitkin, & Sutcliffe, 1998; Hargadon & Fanelli, 2002), organizational change (e.g., Barley, 1986; Beckert, 1999; Sarason, 1995), industry cooperation (Browning, Beyer, & Shetler, 1995), entrepreneurship (Sarason, Dillard, & Dean, 2002), and the evolution of institutions and organizational fields (Barley & Tolbert, 1997; DiMaggio, 1991; Scott, 1995).[1]

In the overlap of research on information systems and organizations, structuration theory has been the theoretical lens of choice for most scholars during the past decade. It provides a major theoretical pillar, though it specifies no detailed theorems or formal hypotheses; and it offers little methodological guidance. Associated with the seminal work of Anthony Giddens (1979, 1984), structuration is more a guiding philosophy of social scientific inquiry than a theory per se. It offers a grand formulation—a way of viewing the world—that is so general and encompassing that it cannot be falsified. Competing formulations include phenomenology, functionalism, hermeneutics, critical theory, and positivism (Thompson, 1981). Sometimes referred to as a "meta-theory," structuration offers a set of value choices or sensitizing devices, not a set of propositions or hypotheses (Orlikowski & Robey, 1991; Walsham & Han, 1991). The theory requires researchers within a domain to specify whatever premises are appropriate to phenomena and contexts of interest. Similarly, structuration theory leaves decisions about research settings, procedures, measurements, and analytic tools to the researchers themselves. It offers no more than general strategies for research conduct.

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