Chapter XXI
A Review of IS Research Activities and Outputs Using Pro Forma Abstracts

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ABSTRACT

Using March and Smith's taxonomy of information systems (IS) research activities and outputs and Newman's method of pro forma abstracting, this research mapped the current space of IS research and identified research activities and outputs that have received very little or no attention in the top IS publishing outlets. We reviewed and classified 1,157 articles published in some of the top IS journals and the ICIS proceedings for the period 1998–2002. The results demonstrate the efficacy of March and Smith's (1995) taxonomy for summarizing the state of IS research and for identifying activity-output categories that have received little or no attention. Examples of published research occupying cells of the taxonomy are cited, and research is posited to populate the one empty cell. The results also affirm the need to balance theorizing with building and evaluating systems because the latter two provide unique feedback that encourage those theories that are the most promising in practice.

INTRODUCTION

The information systems' literature is diverse. Some applaud this expansive scope while others consider it indicative of a lack of discipline. This research investigates the scope of IS literature using a taxonomy proposed by March and Smith (1995) and a classification method developed by Newman (1994). This offers a different and richer view of the literature landscape than that provided by citation analysis and one that is independent of epistemological and methodological partisanship. The authors approach IS research from the perspective of juxtaposing research activities and research outputs, leading to 16 different classifications of IS research products. Being able to move away from dichotomous classification systems and toward a richer lens through which to view IS research, IS researchers can take a broader view of the underrepresented areas in the field and surgically address those research voids in the IS research quilt.

At the first International Conference on Information Systems (ICIS), Keen (1980) warned IS researchers of the need to develop a cumulative research tradition, to build upon each other's and their own work; to develop shared definitions, topics and concepts; to ensure that journals in the field have a clear focus; and to build orthodoxy without dissuading novelty. Since then, several researchers have considered IS's progress toward this goal (Banville & Landry, 1989; Benbasat & Weber, 1996; Weber, 1987, 1999). Baskerville and Myers (2002) for example, stated, "[i]t is our opinion that IS has been singularly successful in developing its own research perspective and its own tradition" (p. 3). Likewise, Culnan (1987) stated that IS has "made significant progress toward a cumulative research tradition" (p. 341). Others, however, such as Vessey, Ramesh and Glass (2002) suggested that a cumulative research tradition has not yet been achieved because of a lack of focus on *theory,* "[o]ur data leads us to the conclusion that IS research does not demonstrate reliance on a single theory, or a set of theories, even in what we may regard as well-defined subareas of the discipline" (pp. 166–167). Benbasat and Zmud (2003) also concluded that there is a lack of cumulative research tradition in IS, but they argue that this is a result of a failure to focus on the *artifact.*

The state of IS cumulative research remains unclear, and whether this confusion is a result of a lack of focus on theory or artifact may be both a contributor and a result of this confusion, a chicken-and-egg argument. In other words, any meaningful assessment of the state of IS cumulative research must (a) categorize theory and artifact research, (b) consider the impact of the theory-artifact mix on cumulative knowledge, and (c) identify and encourage research programs that fill-in gaps and have the greatest potential impact on IS cumulative knowledge. To our knowledge, these relationships have not collectively been considered in past empirical reviews of IS literature.

Others have recognized that development of IS cumulative knowledge requires a symbiotic give-and-take between artifact design research, building and evaluating systems, and behavioral science research, theorizing and justifying systems (Hevner, March, Park, & Ram, 2004; Lee, 1991; March & Smith, 1995; Newman, 1994; Simon, 1996; Walls, Widmeyer, & El Sawy, 1992). The behavioral science paradigm is well established in the IS literature. Although introduced to IS researchers in the early 1990s (Walls et al., 1992), the design science paradigm is only recently beginning to gather momentum (Walls, Widmeyer, & El Sawy, 2004). Moreover, Simon (1996) asserts that design science research is the *foundation* of all professional disciplines.

Everyone designs who devises courses of action aimed at changing situations into preferred ones. The intellectual activity that produces material artifacts is no different fundamentally from the one that prescribes remedies for a sick patient or the

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