

The Anatomy of a Design Theory

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Design work and design knowledge in Information Systems (IS) is important for both research and practice. Yet there has been comparatively little critical attention paid to the problem of **specifying design theory** so that it can be communicated, justified, and developed cumulatively. In this essay we focus on the structural components or anatomy of design theories in IS as a special class of theory. In doing so, we aim to extend the work of Walls, Widemeyer and El Sawy (1992) on the specification of information systems design theories (ISDT), drawing on other streams of thought on design research and theory to provide a basis for a more systematic and useable formulation of these theories. We identify eight separate components of design theories: (1) purpose and scope, (2) constructs, (3) principles of form and function, (4) artifact mutability, (5) testable propositions, (6) justificatory knowledge (kernel theories), (7) principles of implementation, and (8) an expository instantiation. This specification includes components missing in the Walls et al. adaptation of Dubin (1978) and Simon (1969) and also addresses explicitly problems associated with the role of instantiations and the specification of design theories for methodologies and interventions as well as for products and applications. The essay is significant as the unambiguous establishment of design knowledge as theory gives a sounder base for arguments for the rigor and legitimacy of IS as an applied discipline and for its continuing progress. A craft can proceed with the copying of one example of a design artifact by one artisan after another. A discipline cannot.

Abstract:

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