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Susan Brown
University of Minnesota

Norman Chervany
University of Minnesota

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EFFECTIVE INFORMATION TECHNOLOGY INTRODUCTION: THE ROLES OF KNOWLEDGE AND COMMUNICATION

Susan A. Brown
Norman L. Chervany
Curtis L. Carlson School of Management
University of Minnesota

Abstract

Improving the process of finding and acquiring new information technology (IT) has been called "one of the most persistently challenging topics in the IT field" (Fichman 1992, p. 95). In order to improve the process, we must first identify the components imbedded within it. We employ the concept of absorptive capacity (Cohen and Levinthal 1990) to focus and synthesize research in innovation, communication, and organizational learning in order to address the question: What are the roles of knowledge and communication during the new IT introduction process?

Absorptive capacity is the ability to identify, assimilate, and exploit external information (Cohen and Levinthal 1990). It is comprised of prior relevant knowledge and communication to facilitate the transfer of knowledge. It has previously been studied from an economic perspective, focusing on revenues and expenses. Our aim in this research was to develop a behavioral model that could be used to identify where spending should be allocated.

To build the model, we conducted a literature review, group meetings with practitioners, interviews, and two case studies. The literature review provides the justification for a model of technology introduction that examines communication and knowledge. The group meetings and interviews helped us to identify the nature of the problem from a practitioner perspective. They also provided support for the basic components of absorptive capacity as we have defined it: prior relevant knowledge, communication network, and communication climate. The case studies provided an additional component: absorption determinants that provide some of the impetus to build absorptive capacity.

This is one of a series of studies aimed at uncovering the details of the IT introduction process. This research program promises to provide practitioners with concrete suggestions for improving absorptive capacity and thus, IT introduction process effectiveness. From a theoretical perspective, this research addresses the current lack of theory in information systems (IS) innovation (Swanson 1994) and is aimed at developing a behavioral-based conceptualization of absorptive capacity for use in the IS field. In addition, we provide a foundation for future longitudinal research into the *process* of IT introduction.

REFERENCES

- Cohen, W. M., and Levinthal, D. A. "Absorptive Capacity: A New Perspective on Learning and Innovation." *Administrative Science Quarterly*, Volume 35, Number 1, March 1990, pp. 128-152.
- Fichman, R. G. "Information Technology Diffusion: A Review of Empirical Research." In J. I. DeGross, J. D. Becker, and J. J. Elam (Editors), *Proceedings of the Thirteenth International Conference on Information Systems*, Dallas, Texas, December 1992, pp. 195-206.
- Swanson, E. B. "Information Systems Innovation Among Organizations." *Management Science*, Volume 40, Number 9, September 1994, pp. 1069-1092.