CURRENT RESEARCH USING DIFFUSION OF INNOVATIONS THEORY: A REPORT FROM THE DIGIT PRECONFERENCE MEETING

Gary C. Moore

University of Calgary, Canada

Follow this and additional works at: http://aisel.aisnet.org/icis1991

Recommended Citation

http://aisel.aisnet.org/icis1991/38

This material is brought to you by the International Conference on Information Systems (ICIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICIS 1991 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
PANEL 12
CURRENT RESEARCH USING DIFFUSION OF INNOVATIONS THEORY:
A REPORT FROM THE DIGIT PRECONFERENCE MEETING

Panel Chair: Gary C. Moore, University of Calgary, Canada
Panellists: Mary B. Alexander, University of South Florida, USA
Sue Conger, City University of New York, Baruch College, USA

The selection and implementation of appropriate information technology (IT) within organizations has been a challenge for practitioners, and an area of considerable academic research, for decades. This challenge continues to grow as information technologies develop in new and different directions, ranging in application from the individual end user level to organizational and even "global" levels. Some implementation issues have a technology focus, such as what characteristics make a technology more likely to be successfully implemented across many organizations. Other issues are more behaviorally oriented, such as what factors influence some users and organizations to accept technology and others to reject it. In spite of the long history of implementation studies, there appears to be no body of theory which has been used to unify, or to bring a cumulative tradition to, such work. This panel will discuss one theoretical approach which is becoming more popular in MIS research to address this lack of a theoretical base for implementation research.

IT implementations typically involve either new technologies or require users to adopt new approaches to their work. Because of this, information systems researchers recently have begun to explore the possibilities of basing their research on classical diffusion of innovations theory, extending this sociological work to the implementation (adoption and diffusion) of information technologies at the individual, work group, and organizational levels. Innovations are any product or process that is perceived as being new by potential adopters, and diffusion is the process by which innovations are communicated among potential adopters. Diffusion of innovations theory has been successfully applied in many disciplines, with a variety of emphases. Researchers have examined the effects on diffusion of differences among innovations, adopters, communication patterns, change agents, organizational cultures, and so forth. This robustness thus makes it very suitable for the study of IT implementations.

Many MIS researchers interested in diffusion theory have begun to meet during and prior to ICIS each year to share their results and to discuss the problems and opportunities in applying innovation diffusion theory to information technology implementations. This group calls itself DIGIT, an acronym for Diffusion Interest Group in Information Technology. The DIGIT membership has been asked to contribute information to the panel about their diffusion based research, including work in progress. This panel discussion will begin with an overview of the use of diffusion theory in MIS research in order to familiarize the audience with research directions. Then, based on a review of the literature and reports from the DIGIT membership, it will provide an up-to-date assessment of the area, covering current and anticipated research in MIS using diffusion of innovations theory. Implications which can be drawn from these results and suggestions for further use of diffusion theory will also be presented.

Audience participation is strongly encouraged for this session. In particular, it is hoped that the audience will actively contribute to the discussion of new directions for research and the potential of continuing to apply this theoretical base within MIS.
PANEL 13

RESEARCH APPROACHES TO IT BUSINESS VALUE:
CASE STUDIES VERSUS FORMAL MODELING

Panel Chair: Rajiv D. Banker, University of Minnesota, USA
Panelists: Benn R. Konsynski, Harvard Business School, USA
Charles H. Kriebel, Carnegie Mellon University, USA

The annual investment in information technologies (computers, office and communications equipment) by industries in the United States is hundreds of billions of dollars. This staggering figure does not include money spent on software and systems development. Information technology "hardware" accounts for roughly one-third of all business capital-equipment expenses. The "information sector" accounts for 84% of all "high tech" capital stock in the US. Despite the magnitudes involved, the trade weekly Computerworld recently editorialized "Can you imagine growing your information systems budget by nearly twice the projected rate of inflation without having the ability to adequately measure the business value of projects being funded?"

This dilemma crystallizes in the executive offices of top management who are confronted with conflicting information and advice for major investment decisions on information technology (IT). For example, academics, consultants and professionals argue that IT is tomorrow's key to competitive advantage and bolster their arguments with anecdotal case histories of success. Conversely, there is a growing literature of empirical research which suggests (among other things) that the "productivity gains" from investments in IT over the past decades are neutral or negative. In his recent (1990) book, The Business Value of Computers, Paul Strassmann concludes, "there is no relation between spending for computers, profits and productivity." That is a strong statement. Is it true?

A number of different paradigms and approaches to assessing the business value of information technologies have emerged in the research literature. Some of these compete with one another on what attributes and measures are emphasized and which methods are employed; others are complimentary. While all of the approaches seek to describe IT contributions, the differences in outcomes can often be traced to the underlying discipline(s) embodied in the approach and the criteria emphasized. These differences impact on the nature of the normative prescriptions for management, if any.

This panel will debate what might be considered two polar extremes in addressing the issue of IT business value: the case study approach and formal analytic modeling. From a research perspective, the former can be considered an inductive approach and the latter as deduction. Is there a natural superiority (e.g., power) of one approach versus the other? The panelists will argue that there is and present their evidence, respectively. Of particular interest, they will address such questions as: How is business value defined and measured? What is the focus of investigation: description, prescription, or diagnosis? What constitutes a result or conclusion? How are results validated? How are they implemented in practice?

After short presentations by each panelist, the discussion (and debate) will be opened to the general audience with strong encouragement for broad participation.