

Chapter IX

Information and Communication Technology Management

INTRODUCTION

In this chapter on information and communication technology management, we retain a chronological order to emphasize the development of research interests and approaches as technology itself grows more complex, sophisticated, and increasingly integral to a firm's innovative ends and operative strategies. We begin with two articles concerned with behavior—specifically, attitudes and decision behavior in the early realm of management information systems. Robey (1979) looks at the attitudes of members of sales departments to understand how individual predispositions to computerized information systems affect human performance with them, ultimately suggesting that the identification of expectancy factors can coalesce into a model of user reactions and motivations toward MIS. In the same year, Zmud investigates information processing and decision behavior, and their effect on the successful development of an organization's management information systems.

In the 1980s, the focus shifts away from behaviors and toward methodologies and practices of MIS development and their implementation. Similarly to Zmud (1979), Ginzberg (1981) presents the results of his study involving MIS users' expectations prior to the systems' implementation to see how and if these expectations could aid the MIS development process. McFarlan's 1984 article addresses CEOs, primarily,

urging them to be aware of the double-edged nature of MIS, as these systems can both create and preclude entry into new domains. That same year, Parsons offers a tri-level framework that helps senior management determine the effectiveness of information technologies and the prospective impacts that they might have on their organizations.

It is fitting that theory and implementation of strategies regarding end user involvement is the third and concluding section of this chapter, as the progression of information and communication technologies from the mid-1980s through the current time has shifted focus to the individual—as customer, as development partner, and as arbiter of product design and modeling. Ives and Olson's 1984 article provides a review of the research on user involvement and its relationship to system success. Stefik et al. (1987) provide an early view of computer-assisted collaborative work tools. Davis, Bagozzi, and Warshaw (1989) look toward the Theory of Reasoned Action (TRA) and the Technology Acceptance Model (TAM) to discuss when and why people accept or reject IT. Melone (1990) provides a comprehensive assessment of a user satisfaction construct, looking at how end user attitudes function as a factor of it. Dougherty (1992) offers her interpretation of both innovation literature and innovators' practice with the marketplace from a philosophical vantage point. She suggests that there is a positive correlation between product design and customer need, that inter-departmental collaboration is essential to IT product development, and that innovators do not necessarily seek out the benefits of such collaboration when tying technological and marketplace issues together as their products are developed. Sethi and King (1994) supply survey results from 185 top IS executives regarding their views on the types of applications that augment their competitive advantage. DeSanctis and Poole (1994) approach information systems development from a strategic and organizational (as opposed to a user-based) vantage point with their adaptive structuration theory (AST), a framework to be implemented when examining organizations for signs of change derived from using IT. Orlikowski (1996) introduces situated practice as a methodology to understand the relationships between organizational change and IT, and an alternative to established perspectives such as planned change, technological imperative, and punctuated equilibrium. Venkatesh and Davis (2000) conclude this chapter with a discussion of Davis's Technology Acceptance Model, but with consideration given to additional variables and their effects on perceived usefulness and perceived ease of use of information technologies.

Attitudinal Responses to IT and MIS Implementation

Robey (1979) studies attitudes displayed by an industrial sales force to understand how certain predispositions affect the use of computer-based information systems.

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