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A CONTINGENT MODEL FOR THE ROLE OF MANAGEMENT SUPPORT IN IS IMPLEMENTATION: A META-ANALYSIS

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Management support is considered critical for the successful implementation of IS innovations (Jarvenpaa and Ives 1991; Sauer 1993). Inconsistent with this, a number of studies report null findings for the effect of management support (Fuerst and Cheney 1982; Leonard-Barton and Deschamps 1988). This research proposes to resolve this inconsistency between theory and empirical findings. Drawing upon the context contingent model of implementation proposed by Yetton et al. (1997), it is hypothesized that management support is more important to successful implementation in high task interdependence contexts than in low task interdependence contexts.

Yetton et al. Argue that successful implementation of IS innovations requires innovation-organization fit at both the individual and the group level of analysis (Markus and Robey 1983), with the individual and group level impacts contingent on the level of task interdependence. IS innovations that support low interdependence tasks, such as decision support systems, create a high level of impact only at the individual level of analysis (Ginzberg 1980). For these innovations, organization-innovation fit needs to be created only at the individual level of analysis. Diffusion theory provides an appropriate framework for this context (Fichman 1992). In contrast, IS innovations supporting tasks with high levels of task interdependence, such as materials requirement planning, create high levels of impact at both the individual and group level of analysis. These interdependencies are embedded in the organizational structure, in management processes, and in individual skills and roles, many of which would need to change for successful implementation.

Management support contributes to implementation by addressing these group level impacts, by managing the processes which replace existing task interdependencies by a new set of task interdependencies, and by coordinating the changes both within and across task groups. Formally,

H1: The effect of management support on implementation success of IS innovations is a positive function of task interdependence.

The above hypothesis is tested by conducting a meta-analysis (Hunter and Schmidt 1990) of the IS implementation literature. A comprehensive search strategy was used to locate studies for inclusion in the meta-analysis. Data on sample size and correlation between management support and implementation success has been collected and, where available, the reliability, mean, and standard deviation of the measures. Two expert coders estimated task interdependence for each study by rating a description of the IS innovation on Pearce and Gregerson's (1991) scale of task interdependence. The moderating effect of task interdependence is tested by comparing the estimated mean correlations across the low and high task interdependence subgroups.

A preliminary analysis based on 21 studies provides support for H1. The average correlation of 12 studies in the low task interdependence subgroup is 0.19 (95% confidence interval of 0.15 to 0.23). In contrast, the average correlation for nine studies in the high task interdependence subgroup is 0.36 (95% correlation interval of 0.30 to 0.42). The two intervals do not overlap, providing support for H1.

This study, besides extending theory and resolving inconsistent findings in the literature, also has important managerial implications. It suggests that managers need to develop implementation strategies contingent upon task interdependence. It also suggests different managerial responses to implementation failures in high and low task interdependence contexts. For example, an appropriate implementation strategy for low task interdependence innovation would involve a high level of managerial effort in ensuring appropriate innovation characteristics, followed by a low level of management involvement during implementation. Implementation failures would be addressed by redesign, rather than increased supervision and monitoring of end-users. In contrast, implementation strategies for high task interdependence innovations would require a high level of managerial involvement in developing plans for coordinating adoption across multiple end-users and solving organizational change issues as they emerge during implementation. Implementation failures would be addressed by coordinating the adoption attempts of end-users, helping end-users to discover the nature of their interdependencies, and by encouraging experimentation by end-users to develop new task routines.

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