Facilitating Innovation Adoption and Diffusion: The Case of Telework

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Despite many potential benefits for both the employer and the employee resulting from telework arrangements, this innovation has not been adopted and diffused as expected. This study uses innovation theory as a foundation to study the growth of telework by empirically testing the strength of the relationship between facilitator variables and the adoption and diffusion of telework. Strong relationships were found for both general innovation facilitator variables, such as top management support and a champion, and innovation-specific facilitator variables as suggested by the telework literature. These results suggest that to obtain a more complete model of the relevant factors in the adoption and diffusion of innovations, characteristics of the specific innovation must be considered. Also, these findings have implications for the future growth of telework and can guide those wishing to champion telework in their organization.

Due to the often cited benefits of telework to both the employer and the employee (U.S. Department of Transportation, 1993), telework has been predicted to experience rapid growth (Furger, 1989; Raths, 1990; Schepp, 1991). Yet, this predicted rapid growth has not materialized (Christensen, 1990). However, the increasing capabilities of enabling technologies, together with decreasing costs for these technologies, have spurred continued predictions for telework’s rapid growth. For example, one source suggests that the number of teleworkers is expected to exceed 13 million by 1998 (Baig, 1996), while another predicts that by the year 2000 there will be about 25 million telecommuters (Dickisson, 1997).

While some of the technological barriers to telework have been reduced by advancements of enabling technologies such as the wider availability of ISDN, the major barriers to the growth of telework do not appear to be just technological, but also cultural. A recent study by Ruppel and Harrington (1995) found that managerial attitude towards telework is a major barrier to telework’s growth while another study suggests that another related barrier to telework’s growth is reduced control and supervision by managers (Jones, 1996). While the problem of reduced control and supervision may be aided by technologies such as desktop video conferencing, there is still the cultural/attitudinal barrier that must be overcome for telework as well as other forms of virtual work to experience widespread growth.

A theoretical basis for the study of the growth/nongrowth of telework can be found in the organizational innovation literature. Innovation theory applies to the study of the adoption (the decision to use) and diffusion (the extent of implementation) of innovations within organizations. This theory is appropriate for the study of an innovation which is new to an organization, not just to the development of a novel
idea (Rogers, 1983; Wolfe, 1994). Existing studies have been meta-analyzed by Damanpour (1991) and include such traditional organizational innovation variables as formalization, centralization, specialization, professionalism, administrative intensity, functional differentiation, size and managerial attitude towards change.

However, innovation studies have often not been consistent in their findings (Prescott and Conger, 1995; Wolfe, 1994; Fiol, 1996), making it difficult to develop an all-encompassing theory that explains the adoption and diffusion processes of a myriad of innovations within an organizational context. Many classifications of innovations (i.e. radical v. incremental, administrative v. technological), the level at which the innovation is adopted and diffused (i.e. organization, work group, individual), the scope of the innovation, the type of innovation and the methodologies used by the study have all been proposed as important distinctions in an attempt to clarify inconsistent results from organizational innovation studies. Damanpour (1991) and Wolfe (1994) both review the organizational innovation literature and attempt to classify studies to find similarities and differences across these categories that may explain these inconsistent results, as well as identify needed areas for additional research. Prescott and Conger (1995) reviewed the Information Technology (IT) innovation literature and came to similar conclusions.

Also to aid in theory development, the traditional organizational innovation literature has been expanded to include additional concepts believed to affect innovation efforts. One such concept is that of absorptive capacity (Cohen and Levinthal, 1990; Boyton, Zmud and Jacobs, 1994). Absorptive capacity suggests that innovation adoption and diffusion are limited by a firm’s ability to “recognize the value of new information, assimilate it, and apply it to commercial ends.” (Cohen and Levinthal, 1990, p. 128)

Related to the concept of the importance of knowledge within an organization is the application of the concept of organizational learning to the adoption and diffusion of innovations. Sharma (1995) applied this concept to the study of the adoption and diffusion of Computer Aided Software Engineering (CASE). Huber (1996) also discusses the importance of organizational learning, particularly in technology-critical organizations, since a technology-critical organization requires the frequent adoption and diffusion of new technologies.

Along with the traditional adoption and diffusion variables of the innovation literature, as well as the concepts of absorptive capacity and organizational learning, others suggest that culture or climate of an organization is related to the adoption and diffusion of innovations in that organization (Prescott and Conger, 1995; Boyton, Zmud, and Jacobs, 1994). Prescott and Conger (1995) call for the need for additional research into this promising construct after reviewing the existing literature concerning the relationship between culture and the adoption and implementation of IT innovations.

The search for additional explanatory variables, as well as the categorization of innovations, suggests that the search to find an explanation of inconsistent results has resulted in the addition of several concepts to the existing organizational innovation literature. Therefore, Wolfe (1994) suggests that the adoption and diffusion of innovations is a very complex process which is not easily explained. For example, why does an organization not adopt a potentially beneficial innovation such as telework?

While all of these concepts related to the adoption and diffusion of innovations contribute to our understanding concerning the adoption and diffusion behavior of organizations, the conflicting results may also be, in part, the result of the aggregation of innovation variables across several unique innovations. Recently there has been an attempt to study single innovations using an organizational innovation framework as suggested by Damanpour (1991). For example, the adoption and diffusion of CASE (Rai and Howard, 1994; Premkumar and Potter, 1995; Tyre and Orlikowski, 1994), Electronic Data Interchange (EDI) (Drury and Farhoomand, 1996) and telemarketing (Marshall & Vredenburg, 1993) all have been studied.

These studies suggest some factors related to innovation adoption and diffusion seem to cross individual and categorical boundaries. For example, Prescott and Conger (1995) suggest that the importance of the existence of a champion for an innovation is almost universally agreed upon. Other factors may be uniquely important in the adoption and diffusion of an innovation categorized as an administrative innovation (Damanpour, 1991; Drury and Farhoomand, 1996). Administrative innovations are characterized as those that affect the organization’s administrative process, organizational structure or management style (Damanpour, 1987; Drury and Farhoomand, 1996). In the case of technological innovations, other factors may be related to their adoption and diffusion (Damanpour, 1987).

However, when studying specific innovations, a fuller understanding of adoption and diffusion behaviors may be gained by consideration of organizational factors which facilitate the adoption and/or diffusion of these specific innovations. Prescott and Conger (1995) discuss the need for further study of “fit” between the organization and the specific innovation. The importance of these variables is also suggested by Rogers (1983) who, in the adoption process in organizations, identified a matching stage, which involves knowing and understanding the specific characteristics of the innovation under consideration. In the diffusion process he identifies a redefining/restructuring stage. This stage also requires understanding and/or modifying the specific characteristics of the innovation that has been adopted, or modifying the organizational structure of the adopting organization to facilitate the implementation of the innovation. These specific characteristics of an innovation will be referred to in this study as