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The Role of Information Technology Support Mechanisms in Coordination Management for Virtual Organizations

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Primary Research Area

Technology offers real potential for changing the way in which people work (Daniels, 1995). Perhaps for the first time it may be possible to build organizations in the way people want, not constrained by information requirements and availability (Daniels, 1995). Companies are forming international collaborative arrangements as the basis for developing competitive advantage from technology (Bailetti and Callahan, 1993), and coordination of IT management presents a challenge to these firms with dispersed, decentralized IT practices (DeSanctis and Jackson, 1994).

Virtual enterprises are emerging that reflect the current situation, with previously well-defined structures beginning to lose their edges, seemingly permanent things starting to change continuously, and products and services adapting to match our desires (Davidow and Malone, 1992). Virtual organizations are: reliant on cyberspace (the medium in which electronic communications flow and software operates), enabled by new computing and communications developments, and initially will exist only across conventional organizational structures (Barnatt, 1995). Currently, four different versions of the virtual organization have been identified: telecommuting, hot desk environment, hotelling, and virtual teams (Barnatt, 1995). This research will focus on virtual teams within existing corporations as representative of virtual organizations.

To remain competitive in today's business environment requires new levels of cooperation and coordination of both intra- and inter-organizational systems. DeSanctis and Jackson (1994) explored three major mechanisms for facilitating interunit coordination of IT management: structural design approaches, functional coordination modes, and computer-based communication systems. The authors presented a three-dimensional model consisting of: Coordination Structures (cross-functional teams, task forces, designated liaison roles, direct contact, reporting requirements), Coordination Modes (information sharing, procedural, structural, task outputs, task dialogue), and IT Support Mechanisms (document sharing, bulletin boards/E-Mail, computer conferencing, electronic meeting software, discussion databases).

A next logical step in developing this work includes expanding its coverage to ongoing and ad-hoc intraorganizational groups serving as representatives for virtual organizations. In addition, further development is needed for each dimension of the proposed three-dimensional model. This research will attempt to identify the components of the IT Support Mechanisms dimension of the model and measure those components in organizations which exhibit virtual organization characteristics in their group operations.

Relevant Theories Applied

The theoretical development for this study combines factors taken from institutional theory, coordination theory, and Keen's (1991) organizational complexity model. Institution theory states that the organization's structure influences the selection of control and coordination mechanisms. Coordination theory proposes that the type of dependency also influences the appropriate control and coordination mechanisms. As a result, both organizational structure and dependency affect control and coordination in the theoretical framework. IT adoption and usefulness are viewed as factors in determining the choice of control and coordination mechanisms, as well as resulting from the choice of these mechanisms. IT adoption and usefulness represent a consideration of technology feasibility and Keen's (1991) solution to organizational

complexity through IT, and they demonstrate that IT is necessary to implement the choice of control and coordination mechanisms.

Planned Methodology

This proposed investigation will employ a field survey research strategy. The data collected are mainly opinion and demographic in nature. A multiple-company, multi-team survey will be used to examine the role of IT support mechanisms in coordination management for virtual organizations. Since this study examines possible differences in the coordination structure, IT adoption, and IT usefulness among virtual organizations, it is an explanatory survey.

References available upon request from author.