Boundary Spanning Role of the IS Development Team in Consultant-Partnered Projects: Knowledge Management Perspective

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ABSTRACT

This research examines the effect an Information Systems (IS) development team has on end-users’ perceptions of system quality and system benefits by transferring relevant knowledge through inter- and intra-firm boundaries. The research context is the prevalent partnership in which an external consultant with relevant expertise leads a client team to undertake an IS project. A high-level research model that depicts dynamics among team competence (for knowledge transfer), consultant partnership (with the project team), knowledge transfer (through inter- and intra-firm boundaries), and project success is proposed grounded on the theory of boundary spanning. Key indicators of team competence and consultant partnership are derived from existing studies. With expected multiplicity in the conceptual dimensions of team competence and consultant partnership, they are designated as second-order constructs with first-order manifest variables. User perceptions of the post-implementation quality and benefits of an information system serve as project success variables. Relevant hypotheses propose dynamics among the studied constructs. Survey data are gathered from both system developers and end-users, and the integrity of the research model and corresponding hypotheses are empirically tested with structural equation modeling. Data analysis confirmed the importance of knowledge transfer for the post-implementation success of an IS project.

Keywords: Boundary Spanning, IS Success, Knowledge Management, Knowledge Transfer, Project Management

1. INTRODUCTION

There is a growing body of literature underscoring the importance of knowledge-driven business operations to create new business values and opportunities (Alavi & Leidner, 2001; Karlsen & Gottschalk, 2003). Not surprisingly, knowledge resources and their management are being accepted as key predictors of organizational and team performance (Argote & Ingram, 2000; Tanriverdi, 2005; Jih et al., 2006). Recognizing the importance of intellectual assets as
a competitive weapon, firms are putting more efforts into the effective creation, acquisition, sharing, and utilization of knowledge (Argote & Ingram, 2000; Nonaka, 1994).

Information systems (IS) projects within a firm offer an excellent opportunity for learning (Stein & Vandenbosch, 1996). In fact, knowledge acquisition itself has been suggested as the essential element of a successful project (Ayas, 1996; Edberg & Olfman, 2001; Schindler & Eppler, 2003). Through an IS project, a firm’s employees can learn methods of process innovation and re-engineering, institutionalize best practices for systems development and deployment, and gain post-implementation know-how of system maintenance and management (Loo, 2003; Schindler & Eppler, 2003). The transfer of such knowledge takes place at different levels of interactivity (i.e., between developers and external partners, between developers and end-users, and among developers) (Bressman et al., 1999; Karlsen & Gottschalk, 2004). It has been asserted that successful knowledge management in an IS project can enhance a firm’s core competence and performance (Epple et al., 1996; Slaughter & Kirsch, 2006). Nonetheless, it is also true that many organizations fail to capitalize on IS projects in enhancing organizational intelligence (Schindler & Eppler, 2003; Stein & Vandenbosch, 1996).

The focus of our empirical research is to examine the effect an IS development team has on end-users’ perception of system quality and system benefits by transferring relevant knowledge across inter- and intra-firm boundaries. The research context is the prevalent partnership in which an external consultant with relevant expertise leads the client team of a firm to undertake an IS project. For the study, a high-level research model that depicts dynamics among inter- and intra-firm boundaries. The research context is the prevalent partnership in which an external consultant with relevant expertise leads the client team of a firm to undertake an IS project. For the study, a high-level research model that depicts dynamics among team competence, consultant partnership, knowledge transfer, and project success is proposed grounded on the theory of boundary spanning. Key indicators of team competence (absorptive capacity, project manager’s leadership, team climate, and training) and consultant partnership (team trust, effectiveness of communication, and levels of conflict) are derived from existing studies. With expected multiplicity in their conceptual dimensions, team competence and consultant partnership are designated as second-order constructs with first-order manifest variables. User perceptions of the quality and benefits of an IS are adopted as success variables.

Knowledge transfer, here, represents various knowledge spanning activities and processes (both structured and unstructured) across recognized boundaries at a firm. It therefore implicates acquiring, codifying, translating, amplifying, institutionalizing, and sharing both tacit and explicit knowledge (Kim et al., 2006; Alavi & Leidner, 2001; Nonaka, 1994). Given the mode of partnership in this study, knowledge transfer may be largely unidirectional from consultants to developers and from developers to organizational stakeholders including system users. For the bridge role, a project team effectively acts as gatekeeper, scout, ambassador, and guard of associated knowledge (Levina & Vaast, 2005). Also, it should be adept in creating and marketing various boundary objects (i.e., documents or manual) of a target information system (Levina & Vaast, 2005; Pawlowski & Robey, 2004). Naturally, a team’s competence in effectuating inter- and intra-firm knowledge transfer and its partnership quality with consultants are crucial for the ultimate success of an IS project.

The theory of boundary spanning is discussed as the conceptual foundation and a research model that reflects dynamics among implicated factors is derived. Relevant hypotheses are proposed on the relationship among the studied variables. Survey data are gathered separately from the developer and the end-user of an IS in a pair-wise manner and combined for analysis. The integrity of the research model and corresponding hypotheses are then empirically tested based on structural equation modeling. Data analysis confirmed the vital role of a project team in the boundary spanning of system knowledge for the post-implementation success of an IS project.
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