Journal of Management Systems, Vol. XVII, No. 1, 2005,

ARTICLE

Impact of Project Leadership on User Participation and User Involvement The Consequences for User Satisfaction and Systems Usage

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ABSTRACT

Previous literature indicates that many information technology (IT) failures may be attributed to inadequate user involvement in systems development. Organizations commonly fail to recognize the importance of users and a socio-interaction aspect of the systems development. According to Barki and Hartwick (1989; 1994), active involvement of organizational users influences the systems development, which, in turn, impacts general systems development criterion outcomes - overall user satisfaction, systems usage. Leadership on the part of the systems development project leader is expected to be critical to increase users' participation and involvement in the systems development. Leadership is considered to be effective in influencing individual behaviors and perceptions (e.g., attitudes, self-concepts such as efficacy, esteem, actualization, etc) and motivate them to exert efforts in the direction of a certain goal. User participation is actual behaviors and activities pertaining to the systems development and user involvement is one's perception of the systems in terms of its importance and relevance. Thus, a project leader's behaviors are expected to be effective in enhancing these behavioral and perceptual factors. This study focuses on examining the impact of project leader behaviors on the systems development through user participation and user involvement.

Descriptors: Leadership, Systems Development, User Involvement, User Participation, User Satisfaction, Systems Usage

INTRODUCTION

Information technology (IT) has grown rapidly by assuming a critical role in helping and enabling organizations accomplish their strategic goals as capital spending on IT grows over the last decade. Accordingly, much attention has been placed on strategic use of IT (e.g., Armstrong & Sambamurthy, 1999; Mata, Fuerst, & Barney, 1995; Sabherwal & Chan, 2001). Essentially, IT should be targeted into organization's core business activities and support and enable organizations to operate efficiently and effectively or differentiate themselves from competitors (Johnston & Carrico, 1988). In order to leverage IT's strategic potential, organizations should execute proper IT planning and the systems development (Rockart, 1988; Segars & Grover, 1988). However, more than 50% of all enterprise-wide IT projects have been such as business process reengineering (BPR) and enterprise resource planning (ERP) projects failed (Sutcliffe, 1999). Most IT and systems failures may be attributed to inadequate inclusion of users in IT development (Overby, 2002, 2003). Indeed, a study showed that user involvement is one of critical success factors for software projects. A lack of user involvement leads to misunderstanding of the systems requirements, misaligning end-user expectations, and unclear systems' scope and objectives (Schmidt, Lyytinen, Keil, & Cule, 2001). Thus, involving users (i.e., representatives from affected functional units) in all stages of the systems development projects is important (Overby, 2003). So, users' mental schema and knowledge of needs and preferences should be accounted as much as possible (Leonard-Barton & Sinha, 1993).

In general, IT and systems projects pertaining to the systems development undergo a series of phases: systems conception (initiation), design, programming, and implementation (transformation), and operation (Rockart, 1988; Segars & Grover, 1988). As suggested in previous literature, human agents should play a critical role in IT and systems projects because they are eventual users who adopt the systems by interacting with various IS parties (e.g., IS personnel, a project team, etc.)(Boland, 1978; Kirsch, 1997; Newman & Robey, 1992; Segars & Grover, 1988). For example, users can provide IT project team insights and information pertaining to their business priorities and routines in terms of the systems requirement during initiation and help

create better input/output layouts and forms through cooperative and collaborative efforts during transformation. They may also help organizations realize how IT can be exploited strategically during operation (Segars & Grover, 1988).

However, it is still prevalent that organizations fail to recognize the importance of human agents and a socio-interaction aspect (e.g., organizational users' functional needs, expectations, business priorities, etc.) of IT and systems development. In such a case, the systems may be likely to control organizational users and dictate business processes and operations following system designers' general interpretation (i.e., a spirit of technology) of what are good for businesses (Avolio & Kahai, 2003; Boland, 1978), which may lead to IT operation and management to its marginal capacity at best. Thus, active user involvement influences the systems development, which is in line with Barki and Hartwick's studies (1989; 1994). Barki and Hartwick (1989; 1994) posit that user participation is positively associated with their involvement in the systems development, which affects users' attitudes and satisfaction with the systems. This, in turn, impacts general outcomes of the systems development (e.g., overall user satisfaction, systems usage). In addition, there may exist factors (e.g., users' personality, present and future work-related needs, past experience, and management commitment and support) influencing users participation and involvement in the systems development (Barki & Hartwick, 1989).

Leadership is expected to be effective in enhancing users' participation and involvement in the systems development because it is believed to be positively associated with individual behaviors and perceptions (e.g., attitudes, self-concepts such as efficacy, esteem, actualization, etc) in ways to achieve a certain goal (e.g., Hollander, 1985; Shamir, 1991). User participation is a set of actual behaviors and activities and user involvement is one's subjective perception of IT (Barki & Hartwick, 1994). Thus, leadership is expected to be effective in enhancing these behavioral and perceptual factors.

In sum, this study focuses on examining the impact of a project leader's leadership in the systems development through users' participation and involvement. The remainder of this paper is organized as follows. The first section provides a theoretical background for constructs in a proposed framework: project leadership, user participation, user involvement, user satisfaction, and systems usage. The next section presents a systematic framework of how IS leadership influences users' participation and users' involvement in ways to enhance user satisfaction and system usage followed by concluding remarks.

■ THEORETICAL BACKGROUND

Figures 1 portrays a conceptual model in which IS leadership affects various dimensions of user participation and involvement in ways to enhance user satisfaction and system usage.

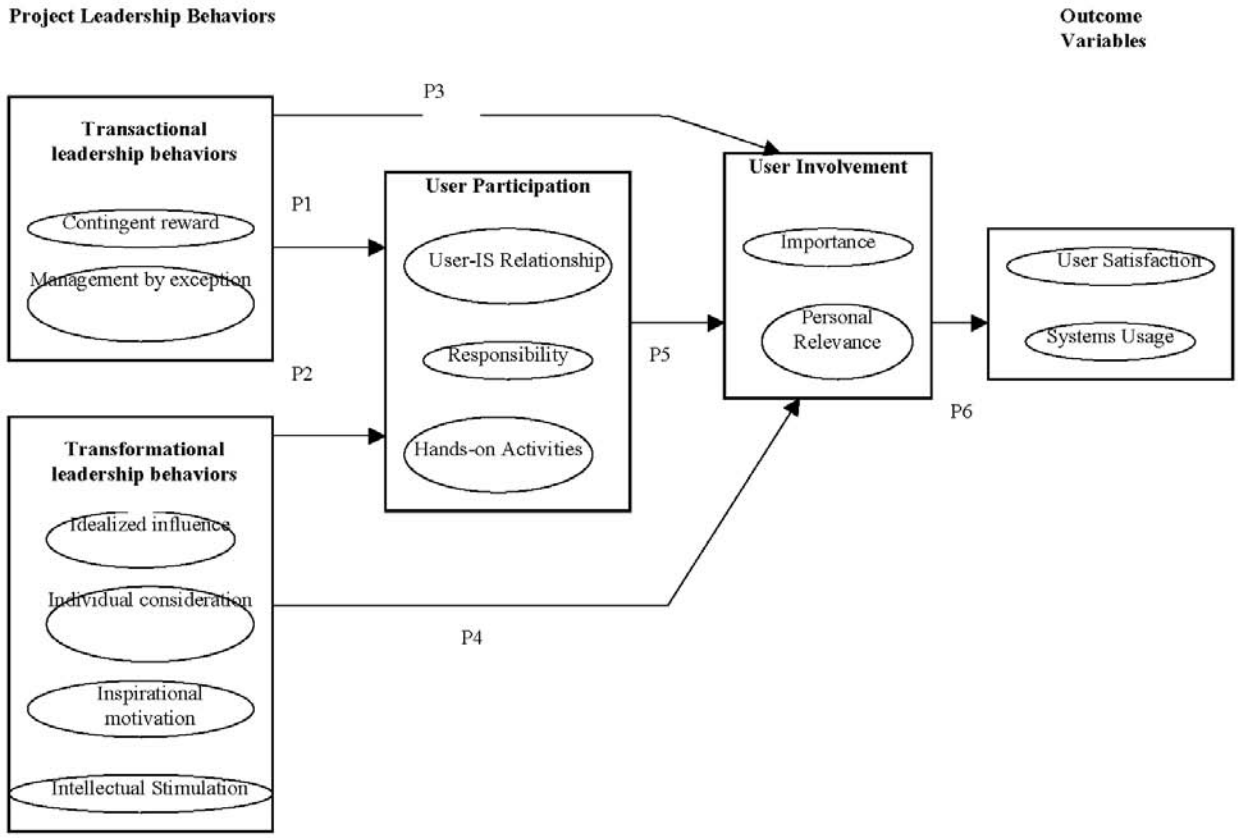
PROJECT LEADERSHIP BEHAVIORS

Drawn from existing leadership literature, have drawn from the existing leadership studies and project leadership is defined as a set of consistent behaviors displayed by an IT project leader to achieve successful systems developmentother people. This study employs a transformational and transactional leadership model and conceptualizes project leadership in terms of two behavioral styles, transactional and transformational leadership behaviors. Among many leadership models, transformational and transactional leadership model is employed because it encompasses major dimensions of leadership (i.e., instrumental, relational, and motivational) and accounts for contextual variables (e.g., uncertainty, task difficulty, etc.)(Northhouse, 1997). Transformational and transactional leadership model includes an instrumental aspect which focuses on organizing and managing things that followers must do to perform, a relational aspect which concentrates on creating mutual respect and followers' needs, and a motivational aspect which focuses on followers' higher motives such as their self concepts (e.g., self-efficacy, self-esteem, personal needs and development)(House & Shamir, 1993).

Both transactional and transformational leadership behaviors are considered to be important for effective leadership (Bass, 1985) and can be displayed by the same leader. A right mixture of these styles is expected from an effective leader, in which transformational leadership augments follower's effort and performance over and beyond produced by transactional leadership alone (Avolio & Bass, 1988; MacKenzie, Podsakoff, & Rich, 2001). This augmentation effect is found to be significant in project success (Thite, 1999, 2000). In sum, this study employs a lens through which an 'effective' project leader is por-

trayed as one who practices both leadership styles. Specific behaviors of each leadership style are elaborated in next section.

FIGURE 1 CONCEPTUAL MODEL



Transactional Project Leadership Behaviors

Transactional project leaders motivate followers by engaging in transactional or exchange relationships in which they exchange rewards for performance. Specifically, transactional project leaders motivate by building and increasing effort-accomplishment expectancies or expectations that an appropriate level of effort will lead to task performance, desired outcomes, and valuable rewards. They do so by contingent rewards (CR) and management by exception (ME) behaviors. CR involves motivating followers by clarifying and assigning what needs to be done and promising rewards in exchange for work that is accomplished. ME focuses on actively monitoring deviances from standards, mistakes, and errors in the follower's assignments, and taking corrective actions as necessary (Bass, 1998; Bass & Avolio, 1993).

Transformational Project Leadership Behaviors

Transformational project leaders motivate followers by framing work-related issues in a way that stimulates them and articulates the intrinsic value of their works. They do so by exhibiting behaviors along the dimensions of idealized influence (II), inspirational motivation (IM), intellectual stimulation (IS), and individualized consideration (IC)(Bass & Avolio, 1993). II involves being a role model by displaying exceptional capabilities and strong conviction to the vision and displaying behaviors that the leader wants the followers to display. IM deals with motivating followers by articulating a compelling vision, providing meaning and challenge to their work, making them identify with the collective or the group, and inspiring them by expressing high expectations and confidence. IS involves stimulating followers to be innovative and creative by encouraging

them to approach familiar situations in new ways. IC focuses on paying attention to individual followers' needs for achievement and growth by acting as coach or mentor and providing a supportive climate in which followers can develop.

USER PARTICIPATION & USER INVOLVEMENT

Consistent with prior studies, a clear distinction between user participation and user involvement should be made as suggested in previous literature. Failing to do so would be detrimental to the credibility of any conceptual models that use constructs pertaining to user involvement, or even lead to ambiguous results (Baroudi & Orlikowski, 1988; Ives & Olson, 1984; Jackson, Chow, & Leitch, 1997; McKeen & Guimaraes, 1997).

User Participation

Users understand the end-users' side of the systems the best, which is important in the selection and implementation of the systems. Users also bring a knowledge base to a project team that would never have gotten through the traditional approach of defining requirements and matching up the systems (Overby, 2003). As suggested by Barki and Hartwick (1989; 1994), user participation is defined as actual behaviors and activities that the potential users or their representatives perform in the IT development. User participation consists of three distinct dimensions: user-IS relationship, responsibility, and hands-on activities. *User-IS Relationship* refers to participation activities involving a relationship between the users and IS staff. *Responsibility* means managerial assignments and activities that are typically performed by the project leader. *Hands-on Activities* refers to systems development activities that users perform both at the physical design and implementation stages (Barki & Hartwick, 1994).

User participation in IT development is believed to provide a more accurate and complete definition of user information requirement, knowledge about the company and organizational unit the system is intended to support, reduction of unnecessary system features, a better understanding of the system, more realistic user expectations about the system, an opportunity for user/IS department bargaining and conflict resolution about design issues, feelings of ownership, a decrease in user resistance to changes caused by the systems, and greater user commitment to the system and its success (McKeen & Guimaraes, 1997).

User Involvement

User involvement is defined as a user's subjective psychological state (Barki & Hartwick, 1994). It refers to the extent to which a user perceives IT in terms of its importance and personal relevance. *Importance* is defined as the degree to which users perceive IT as fundamental, essential, and/or needed. *Personal Relevance* measures the degree of IT impacts that users perceive on their job, routines and tasks.

User participation is expected to be a precursor to user involvement, because active participants in IT development tend to develop perceptions that IT is both important and relevant (Barki & Hartwick, 1994). The more users get involved, the more they will be receptive to a new system (Leonard-Barton & Sinha, 1993) even though there may be contingent factors (e.g., uncertainty, voluntarity of involvement) interfering the relationship (Doll & Torkzadeh, 1989; Ives & Olson, 1984) . In addition, top management's leadership by providing factual and logical information to users may be positively associated with user involvement in the systems development (Barki & Hartwick, 1994).

SYSTEMS DEVELOPMENT OUTCOMES

User satisfaction and system usage are two outcome variables on which a change in user involvement can be reflected.

User Satisfaction & Systems Usage

User satisfaction and systems usage are two of the most frequently used measures of IS success (DeLone & McLean, 1992). User satisfaction has been proposed by some as a substitute for objective determinants of IS effectiveness (Ives, Olson, &

Baroudi, 1983), as the most useful surrogate measure of system success (Guimaraes & Gupta, 1988), and as the most useful assessment of system effectiveness (Hamilton & Chervany, 1981). Even though there is a number of studies positing that user satisfaction can be a precursor to systems usage (e.g., Jones & Beatty, 2001; McGill, Hobbs, & Klobas, 2003), both variables are considered as outcome variables to assess the impact of project leadership behaviors via user participation and user involvement. User satisfaction is defined as the extent to which users believe the information systems available to them meets their information requirements (Ives et al., 1983). User satisfaction is believed to be positively related with user involvement (Yoon, Guimaraes, & O'Neal, 1995).

Systems usage refers to the actual utilization of the systems by individual users in the organization (Straub, Limayem, & Karahanna-Evaristo, 1995). Systems usage is positively associated with user involvement (Leonard-Barton & Sinha, 1993). It is also considered as a critical precursor to job performance (Straub et al., 1995).

■ CONCEPTUAL DEVELOPMENT

PROJECT LEADERSHIP & USER PARTICIPATION

Project leadership behaviors are expected to influence user participation. Transactional project leadership is likely to impact user participation activities that are formally structured and contractually binding in the systems development. These activities include formal requirement analysis, review of IS work and tasks (user-IS relationship), estimating, requesting, and monitoring the systems development costs (responsibility), and defining input/out formats and any systems layouts (hands-on activity). In such cases, transactional project leadership will be effective because it values controlling and monitoring and induces a compliancy from users by making them formally and contractually commit to those activities with exchange behaviors (Bass & Avolio, 1993). This behavioral orientation will be reflected on clarifying the systems development activities and task assignments. It will also be displayed in the forms of tightly controlling and monitoring the systems development activities (e.g., unwillingness to coordinate and cooperate in their development activities) to complete and deliver milestones on time in compliance with allocated resources (e.g., budget, time, knowledge, etc). In sum,In addition, since these systems development activities are also likely to be conventional well—structured and defined, transactional project leadership is expected to be effective via specification of explicit performance goals require exclusively arranged performance goals (e.g., a compliancy to systems development plans and allocated resources), to be accomplished with desiredconstant monitoring of performance relative to these goals, and provide participating users positive/negative relevanttying rewards depending on their sto performance (Bass, 1985), which are largely valued by transformational lea.

On the contrary, transformational project leadership is expected to influence user participation beyond the one produced by transactional project leadership. In order to enhance user participation, a project team should perform in ways to keep users informed of the development process (user-IS relationship), let users assume a share of responsibilities in selecting relevant hardware and software and key positions in a project team, and let users share the accountability for overall success of the systems (responsibility). A project team should also let users take liberty to be creative in designing an effective training program and user manuals and training other users (hands-on activity). These activities require users to think about broad implications of various hardware/software possibilities, possess broad business and technical skills to coordinate with a project team (Byrd & Turner, 2000), stay abreast of current technologies, continue to learn new systems, and assume the role of mentors toward the user community (trainees) (Cramm, 2002).

Transformational project leadership behaviors are likely to be effective in influencing these aspects of user participation. Transformational project leadership values higher level vision and goals and is likely to articulate the purpose of the systems development in terms of organizational goals. This orientation leads a project leader to spend more time and effort to figure out whom to invite, focus on recruiting enthusiastic users to advocate with their peers to get buy-in for new systems and changes. A transformational project leader is also likely to articulate a project team's responsibilities for being flexible to users' concerns and encourage a team to work closely with a core group of experts and representatives from various functional units during the course of the systems development. Thus, various IT issues are weighed and discussed to create an open and flexible system. The amount of noise that it may have to deal with during the implementation will be reduced by giving

users the opportunity to be heard.

The next hurdle is training the other users, which can be the point of pain. A project team may have sold users on the benefits and given them all the right functionality. However, if users do not have time to learn how to use the systems, all is lost. Transformational project leadership values organizational learning and personal growth of each user. He/she considers users as protégé and respects their learning curves and the anxieties they encounter in training. This orientation leads a transformational project leader to seek ways to provide a continuous user support after each roll out of the system, a great deal of follow-up work, informal rounds of visits to the areas of the site to listen and log complaints on a regular basis. A leader also seeks ways to get help from users in driving the requirements definitions and training specifics readily (Cramm, 2002). Thus, users can keep a good balance between their routines and learning. Users will also come to identify themselves with a project team and see their effort to learn contributing to the organizational goal. In sum, I propose the following:

P1. Transactional project leadership behaviors, in the forms of contingent reward behavior and management by exception behavior, are expected to be positively associated with user participation.

P2. Transformational project leadership behaviors, in the forms of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration are expected to augment the impact of transactional project leadership behaviors on user participation to a greater extent.

PROJECT LEADERSHIP & USER INVOLVEMENT

Leadership is believed to influence one's underlying psychological properties such as perception, self-concepts (Bass, 1985; Conger, 1999; House, 1988). Project leadership behaviors are expected to directly impact user involvement as it consists of perceptual variables. In particular, a transformational project leader may *directly* influence users' perception of the importance and personal relevance of the systems. On the contrary, transactional project leadership behaviors are expected to have no impacts because engaging in exchange relationships to provide rewards for performance will not significantly change how users perceive the systems in terms of its importance and personal relevance (Bass, 1998).

A transformational project leader is likely to articulate the benefits of the systems (e.g., streamlining operations and processes across different functions, standardization of various databases, inter-functional linkages, etc.) and foster a better understanding of the systems in terms of higher level goals. It would help various functional units understand the systems contributing to achieving organizational goals by expediting the processes and making business operations more effective. Users would become more conscious of the systems, which will be essential to the organization's core businesses and success. Users would also see the value of the systems on their individual assignments and tasks. These users would sense that their jobs would not be threatened and rather be significantly enhanced in terms of productivity and efficiency (e.g., interdepartmental systems that enable marketing, manufacturing, accounting, customer services to coordinate their activities to serve distressed customers).

A transformational project leader is also likely to see the value of spending time with users to find out a useful outline of their business routines, processes because he/she knows the value behind communicating with them. Users would feel flattered and valuable in the systems development process because they are treated and asked about what they do as if they are important parties. As a project team concentrating on users' daily duties and routines, listening to their various needs and incorporating their opinions into the systems, users tend to get more familiar with the emergent systems and identify themselves sharing more stakes with the systems. This will lead to increase how users perceive the systems important and personally relevant. Based on the above discussion, the following is proposed:

P3. Transactional project leader behaviors, in the form of contingent reward behavior and management by exception behavior, are expected to have no impacts on user involvement, if not negative.

P4. Transformational project leadership behaviors, in the forms of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration are expected to be positively associated with user involvement.

USER PARTICIPATION & USER INVOLVEMENT

User participation is believed to have a positive relationship with user involvement which in turn leads to the enhancement of the systems development outcomes (McKeen, Guimaraes, & Wetherbe, 1994). Active participation in various aspects of the systems development will give users more exposure and knowledge about the systems, which will help them develop favorable perception of the systems and a pride of being a part in a new organizational change (Barki & Hartwick, 1989; Barki & Hartwick, 1994; Overby, 2002; Swanson, 1974). In addition, the more users get involved, the more they will bring their knowledge and insights to the systems development that would never have obtained via the traditional method and requirements definition (Leonard-Barton & Sinha, 1993; Overby, 2003). Thus, I propose the following:

P5. User participation is expected to be positively related to user involvement.

USER INVOLVEMENT & SYSTEMS DEVELOPMENT OUTCOMES

User satisfaction is believed to be positively related with user involvement (Yoon et al., 1995). Systems usage is also expected to be positively associated with user involvement. As users are more involved in the systems development, quality of the systems is likely to be enhanced since more in-depth knowledge base is incorporated into the systems (Barki & Hartwick, 1989). Users are also more likely to come to grasp a better sense of the systems. This may help users minimize their anxiety, ambiguity, reluctance to the systems which makes users more receptive to the systems. This fosters a positive image of the systems, which encourage users to adopt the systems (Leonard-Barton & Sinha, 1993). To follow up the previous literature, the following is proposed:

P6a. User involvement is expected to be positively related to user satisfaction.

P6b. User involvement is expected to be positively related to users' systems usage.

■ CONCLUDING REMARKS

Organizations commonly begin to realize the importance of users and socio-interaction aspect of the systems development. It comes to a project team and its leader to take initiatives to focus on users and their side of the systems development, which has not been spotlighted. This study is to provide a systematic framework of linking a project leader's behaviors to the systems development through user participation and user involvement in line with Barki and Hartwick (1989; 1994). As elaborated, leadership behaviors of an IT project leader are likely to be positively associated with user participation and user involvement in the systems development. Specifically, transactional and transformational project leadership behaviors displayed by a project leader are likely to impact user-IS relationship, responsibility, and hands-on activity of users in ways to encourage more participation. In addition, both leadership behaviors is also likely to influence users' psychological state in ways to transcend their perception of the systems, so that they tend to perceive the systems more important and personally relevant. Finally, active involvement of organizational users is likely to increase the quality of the systems and users' knowledge of the systems, which, in turn, impacts general IT criterion outcomes - overall user satisfaction and systems usage. A logical next step is to test a conceptual model.

The following venues of opportunities should be explored in the future: 1) an impact of leadership on the part of top executive (e.g., CIO) on the systems development since top management's leadership is believed to trickle down to the lower level leaders (e.g., a project leader) and have similar effects (e.g., Yammarino, Spangler, & Dubinsky, 1998); 2) interactions generated from the presence of contingent factors such as task complexity, system complexity (e.g., McKeen & Guimaraes, 1997); 3) direct impact of user participation on IT outcome variables since activities pertaining to training may lead to increasing systems usage (e.g., Guimaraes, Yoon, & Clevenson, 1996);4) interaction effect of user involvement and project leadership behaviors on user participation (e.g., Barki & Hartwick, 1989).

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