

Transformational Leadership in Technology Post-Adoption Period: A Motivational Factor for Acquiring Technology Enhancement Information

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ABSTRACT

This paper examines the role of transformational leadership as a motivational factor in the process of continuous enhancement of IT-based solutions in organizational settings. We investigate the moderating effect of transformational leadership on the relationship between the learning orientation of various informants in technology enhancement activities and their intent to contribute information designed to enhance organizational information systems. We argue that the interaction between the learning orientation of informants and transformational leadership qualities will produce a greater aspiration on the part of informants to advance system enhancement. This model makes an original contribution by linking transformational leadership and learning orientation of followers in the process of knowledge acquisition in organizations.

INTRODUCTION

Organizations continue to deploy new systems as advanced technology solutions become available. At the same time, organizations face the need to enhance extant system by adding complementary IT-based solutions such as security software, storage networks, mobile devices, etc. MIS literature has been primarily concerned about the phenomenon of adoption of new systems, whereas organizational activities in the post-adoption period such as technology enhancement have seen little attention from researchers. Initial technology adoption is often construed as an extensive addition or change of the organization's information system(s). Post-adoption organizational technology activities, in contrast, are typically presented as continuous technology use scenarios. In part, such scenarios imply that organizations invest in supplementary technologies to enhance functionalities of their extant information systems as needs arise. This study aims to make an initial contribution to the area of organizational technology enhancement activities in post-adoption period by investigating the motivating influence of IT leaders on learning orientation of their followers.

IT specialists constantly seek information about new IT-based solutions (Markus and Benjamin, 1996). In this regard, it is important to address leadership qualities of IT management in terms of their influence on followers in the process of information seeking. Transformational leadership acts as a motivational factor for desired behavior of subordinates (Dvir, Eden, Avolio and Shamir, 2002). In this study, we investigate intentional behavior of informants, who are potential sources of enhancement information. Top management, line managers, IT staff and

experienced IS users constitute such sources within the organization. Outside the organization's boundaries, the sources are often consultants and industry analysts. In this study, we rely on internal sources of information such as line managers, IT staff and experienced IS users. This choice is made because IT managers have at their disposal means of direct and indirect influence over these categories of employees.

SOCIAL INFLUENCE VERSUS LEADERSHIP

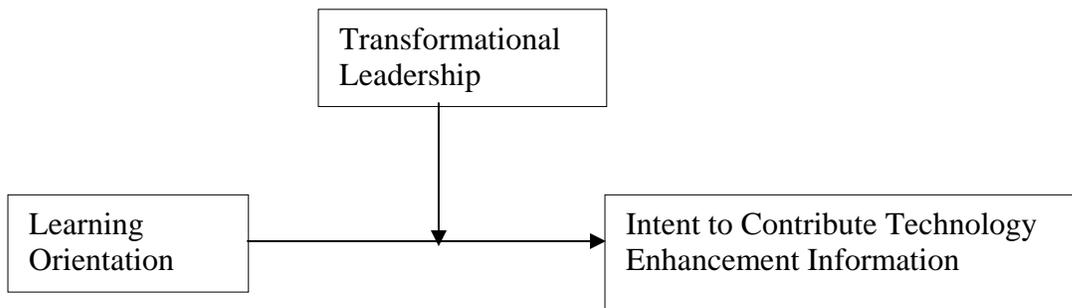
Although research frameworks developed in the MIS literature have recognized the effect of interpersonal relations on IS user intention and behavior (Venkatesh, Morris, Davis and Davis, 2003; Venkatesh and Davis, 2000), no explicit inclusion of leadership in explanatory models has been made. The Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh, Morris, Davis and Davis (2003) named social influence as one of the predictors of IS user intention. While this theory points to the general influence of organizational social environment, it draws no distinction between varied degrees of influence associated with power structure in the organization. However, notions of social influence and leadership have been contrasted in the leadership literature. According to Yukl (1989), researchers drew the following distinction between the effect of social influence and the role of leadership in organizations:

Some theorists believe that leadership is not different from the social influence processes occurring among all members of a group, and these theorists view leadership as a collective process shared among the members. The opposing view is that all groups have role specialization, including a specialized leadership role. This view assumes that there is usually one person who has much more influence than other members and who carries out some leadership functions that cannot be shared without jeopardizing the success of the group's mission. (p. 252)

The UTAUT model does not distinguish varied degrees of influence associated with specific roles of organizational employees. In particular, the social influence approach does not address the degree of influence that IT leaders such as CIOs assume when their organizations are engaged in the IS deployment and enhancement processes. CIOs, in the context of organizational IS deployment and enhancement, take on leadership responsibilities that are manifested in a variety of functions: coordination of IS training, monitoring for IS learning progress and enforcement of compliance with organizational standards for technology use, to name a few (Potter, 2003). While CIOs might not exercise direct authority over organizational employees when it comes to rewards and punishments, their access to other executives allows them to influence employees' compliance behavior. Moreover, dependence of employees on CIOs and IT managers in terms of obtaining system access and IS resources makes IT leaders extremely powerful figures in organizational hierarchy (French and Raven, 1959). This study subscribes to the point of view of the leadership literature, which posits that influence in organizations is linked to specialized roles.

In addition to the proposed inclusion of leadership in the model of post-adoption technology use, the notion of intentional behavior is integrated in this model. Such theories as Theory of Planned Behavior (TPB), Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM) have linked various motivational factors to individual intent for becoming engaged in

organizational activities. We aim to identify factors that motivate line managers, IT staff and experienced IS users to contribute information regarding enhancement of extant information system when approached by IT managers. This study argues that motivational influence of transformational leadership boosts a potential informant's intent to contribute enhancement information. Those IT leaders, who are involved in the continuous soliciting of enhancement information from potential informants, seek to secure the latter's commitment to continuous learning about IS functionalities and technologies. Learning orientation of informants is considered as an important dimension of personal attitudes toward involvement in post-adoption technology use. The resultant model is depicted below:



Model Development

Transformational Leadership

This study's model posits the interaction between transformational leadership and informant's learning orientation towards advancement of technology knowledge and skills. Transformational leadership qualities have been extensively studied in the leadership literature (Dvir, Eden, Avolio, and Shamir, 2002; Judge and Piccolo, 2004; Turner, Barling, Epitropaki, Butcher and Milner, 2002). The concept of transformational leadership depicts four distinct qualities of the leader: individualized consideration, charisma, intellectual stimulation and inspirational motivation (Judge and Piccolo 2004). The two parties in the leader-subordinate relationship engage in exchanges of resources in the context of organizational collaboration. The quality of such relationship would vary depending on which dimensions of interpersonal interaction prevail. Relationships built on behaviors depending on economic incentives and unilateral information flow, from supervisor to subordinate, would reveal transactional leadership qualities. Transformational leadership qualities are distinguished by bi-directional information exchange, the leader's personal attractiveness, the leader's ability to intellectually challenge subordinates, and the leader's consideration given to individual concerns.

Learning Orientation

As discussed above, transformational leadership is posited to interact with the informant's learning orientation, affecting the latter's intent to contribute system enhancement information. We argue that an employee would be more motivated to contribute such information when CIOs and other IT managers offer challenging tasks concerning learning about

new technology features, inspire subordinates' commitment for proposing technology enhancements, attend to individual concerns about IS-related changes, and (to probably a lesser and appropriate degree) exhibit personal attractiveness when communicating about potential technology changes.

Bunderson and Sutcliffe (2003) provided a synopsis on the conceptual development for the notion of learning orientation. They posited that this construct reflected "the character of the goals that an individual implicitly pursues". An employee, who pursues learning objectives, would invest in gaining proficiency in certain knowledge domains or training himself/herself to a certain set of skills. In this study, we want to establish whether learning orientation acts as a predictor of contribution of enhancement information when IT leaders encourage and support such orientation. To this end, Bunderson and Sutcliffe (2003) noted that research had shown that leadership would act as a marker for triggering sought learning behavior on the part of subordinates.

Morrison (2002) posited that learning orientation and motivation acted as factors affecting the subjective state of information seeker that she called Felt Need for Information. Our model hypothesizes that the interaction of these two factors affects informant's intent to contribute information. That is, an interaction impact on this intent, rather than independent effects, is discussed in the model. An Integrated Model of Employee Information Seeking by Morrison (2002) aimed to advance the understanding for the process of information acquisition intended for personal use. In particular, the needs of personal adjustment that newcomers faced in the organization were addressed in the model. Our argument in favor of the interaction of motivation and learning orientation is based on the premise that enhancement information is sought for organizational use. Therefore, supervision and leadership qualities are required to sustain efforts for soliciting information needed by the organization. In short, the premise that we put forward stipulates that leaders rather than individual employees should articulate the need for system enhancement information in organizations.

Technology Enhancement Information

Organizations acquire a number of types of information in technology post-adoption period. Investigating post-adoption informational needs of the healthcare enterprise, Yurov and Desouza (2005) identified such information types as maintenance, enhancement, security, compliance, and training and education. This study focuses on one of these types: enhancement information. This choice has been made given that enhancement information can be sought from various groups of employees, whereas such types as maintenance, compliance, security, and education and training have somewhat limited informant bases. We are interested in studying behaviors of line managers, IT staff and experienced IS users, who come in contact with top technology management. These informant groups come from different functional areas; therefore, we are exposed to a wider base for studying information seeking behavior for system enhancement.

Proposition: transformational leadership qualities of IT leaders will be positively associated with informants' interest in learning about IS functionalities and technologies, such that when transformational leadership qualities are more pronounced, informants will be more motivated to contribute technology enhancement information.

CONCLUSION

This study makes the first attempt, to our knowledge, to include leadership in technology acceptance models in general and post-adoption technology use in particular. Previous research focused on explaining the effect of organizational social environment on IS user intention and behavior in the process of IS deployment. This study accentuates the motivational influence of IT leaders on the intent of subordinates and employees to provide information used for system enhancement. The proposed research framework illustrates that constructive leader-follower relationships generate a greater amount of willingness on the part of followers to sustain their interest in learning about IS features and technologies. When IT managers display transformational leadership qualities, this sustained interest results in a greater intent by followers to contribute to system enhancement.

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