Organizational culture and leadership in ERP implementation

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Abstract

This paper theorizes how leadership affects ERP implementation by fostering the desired organizational culture. We contend that ERP implementation success is positively related with organizational culture along the dimensions of learning and development, participative decision making, power sharing, support and collaboration, and tolerance for risk and conflicts. In addition, we identify the strategic and tactical actions that the top management can take to influence organizational culture and foster a culture conducive to ERP implementation. The theoretical contributions and managerial implications of this study are discussed.

1. Introduction

Enterprise resource planning (ERP) systems, a type III information system (IS) innovation, have strategic relevance because their integration into core business processes or strategies can directly impact firms' performance [69,76]. Thus, many firms have formulated strategies underpinned by ERP systems [12,65]. One study estimates that between 1.5 and 6.0% of firms' annual revenues are spent on ERP implementation [44]. However, while some firms achieve successful outcomes with regard to their ERP adoption, more firms fall victim to the long, costly, unsuccessful adoption process and find the promising benefits far beyond reach [72]. For example, only 10 to 15% of the surveyed firms have achieved expected performance improvement; the remaining firms are experiencing significant discrepancies

between goals and results in ERP operations [34]. Given the high spending and low success rate, it is urgent for researchers to unlock the mystery of benefit realization in ERP adoption and theorize the important predictors' effects on ERP implementation practices [17].

The literature suggests that the fit between the information system and organizational culture is critical for firms to reap potential benefits promised by the system [68]. When the system conflicts with an organization's culture, resistance behavior will result: the system will be rejected, sabotaged or modified to match the existing culture [19,47]. On the other hand, there is a strong body of opinion suggesting that culture can be consciously designed and manipulated by leadership (e.g., [71,73,81,82]). In a similar vein, we contend that leadership can enhance the chance of ERP success by fostering a desired culture. Indeed, in the extant ERP literature, leadership is consistently identified as the most important factor affecting ERP implementation (e.g., [2,13,58,79]). In Sarker and Lee's [70] research, leadership is identified as a necessary factor for ERP

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implementation success. However there is no study on the mediating role of organizational culture in the relationship between leadership and ERP implementation success, though these factors are highly correlated [1].

In this paper, we intend to theorize how leadership affects ERP implementation through fostering the right organizational culture. We do not attempt a comprehensive or exhaustive discussion here. Rather, we offer initial direction and propositions to spur research efforts. In particular, we study the dimensions of organizational culture relevant to ERP implementation, i.e., learning and development, participative decision making, power sharing, support and collaboration and tolerating risk and conflicts. We argue that the success of ERP implementation is positively related with these dimensions of organizational culture. In addition, focusing on leadership at the top management level, we identify the strategic and tactical actions that can be taken to influence organizational culture and theorize how these actions can foster the desired culture conducive to ERP implementation.

This paper is organized as follows. First, we review the literature on ERP, organizational culture and leadership. We then describe the theoretical framework and articulate our propositions on the relationships between strategic and tactical conducts of leadership, organizational culture attributes and ERP implementation success. At last we offer some concluding thoughts.

2. Literature review

2.1. ERP systems

ERP systems have been defined as comprehensive, packaged software solutions that integrate and automate many of the business practices associated with the operations or production and distribution aspects of a company [21]. By integrating business processes across the organization through a centralized common database, ERP differs from earlier IS in its capacity to disseminate real-time information and increase organizational agility [46,69]. However, this large scale of integration makes ERP implementation a highly complex and inter-dependent task [74]. Also, ERP systems are commercial packages that are purchased or leased from software vendors. Their life cycle is different from that of traditional IS, and adopting organizations sometimes forgo or curtail the analysis of current information requirements and business processes. As a result, ERP systems may not fit the organization's idiosyncratic needs. In addition, embedded in the ERP packages are best business models that their designers

believe to represent best practices. While ERP systems provide the organization the windows of opportunity for strategic changes, these systems' deployment requires large-scale human and organizational changes.

ERP systems impose great challenges on the adopting organizations. They require substantial material and managerial resources, a redesign of business processes and patterns of work flow, and a process of mutual adaptation of the system and organizational structure. In addition, ERP implementation involves many employees and external parties — the project manager, project team members (employees from various business units), internal IT specialists, vendors, and consultants [46]. It also includes multiple tasks — software configuration, system integration, testing, data conversion, user training and system rollout. Due to its complexity, the outcome of ERP implementation is a dynamic concept, consisting of multiple dimensions — business index (e.g., ROI), operation metrics (e.g., labor costs, orders shipped without errors) and information capability (e.g., information quality, user satisfaction with information) [41].

2.2. Organizational culture

Organizational culture is defined typically in terms of the way people think, which has a direct influence on the ways in which they behave. For example, recognizing that culture manifests itself in terms of behavior and espoused values, Schein [71] suggests that the essence of culture lies in the set of "underlying assumptions." Similarly, Deshpande and Webster ([23], p.4) define organizational culture as a "set of shared assumptions and understanding about organization functioning." The theoretical argument about culture is that it is a complex system of norms and values that is shaped over time [71]. It is generally understood as the social glue that holds organizational members together and expresses the values, social ideals, and beliefs that members share. Based on these definitions, it is easy to see that an organization's culture exerts commanding influences on how its employees perceive events [22] and how they behave [7,71].

In particular, organizational culture provides employees a common frame of reference for changes in an organization. When organizations have different cultures, people have different perceptions and interpretations of organizational changes, which affect employees' embracing changes [40]. Therefore, organizational culture is known to be important for the success of projects involving any organizational changes. Indeed, there is strong support for the importance of organizational culture in innovation