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Exploring knowledge sharing in ERP implementation: an organizational culture framework ☆

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Abstract

This is a multi-site case study of firms that have implemented enterprise resource planning (ERP) systems. It examines eight dimensions of culture and their impact on how ERP implementation teams are able to effectively share knowledge across diverse functions and perspectives during ERP implementation. Through synthesizing the data, we develop a cultural configuration that shows the dimensions of culture that best facilitate knowledge sharing in ERP implementation. The results also indicate ways that firms may overcome cultural barriers to knowledge sharing. A model is developed that demonstrates the link between the dimensions of culture and knowledge sharing during ERP implementation. Possible research questions on which future research can be based are also identified.
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1. Introduction

Enterprise resource planning (ERP) is a tool that helps companies cut costs and improve efficiency by integrating business processes and sharing common resources across an organization [49]. ERP systems institutionalize the sharing of resources by requiring the consolidation of diverse and decentralized computing platforms, data models, and functional processes in order to improve operational efficiency [30,47]. ERP systems are large, complex and often require fundamental changes to the way organizations perform processes. They may also impact the organizational decision making that underlies the processes

[17]. There is evidence that ERP enables organizations to achieve decision support benefits such as improved knowledge processing, enhanced decision making reliability, and better ability to gather corporate evidence to support the decisions made [19]. Furthermore, managers believe it is important for ERP systems to provide decision support for quicker decisions, lower costs of decision making, and improved ability to manage large quantities of knowledge [19]. In order for this to occur, however, appropriate organizational knowledge must be incorporated into an ERP system so that the system has a sufficient underlying knowledge structure to achieve this support. Knowledge from a diversity of perspectives and experiences must be shared and incorporated during ERP implementation [26,28].

Knowledge is a multi-faceted concept and is embedded within many entities in an organization including the organization's culture, policies, documents, and members themselves [1]. Knowledge is often described in terms of a taxonomy of knowledge types (e.g., tacit vs. explicit, individual vs. collective, declarative vs. causal vs. relational). However, another way knowledge is described is in terms of its pragmatic nature. The pragmatic facet of knowledge taps the types of knowledge that are useful to an organization such as knowledge about products, best practices, business frameworks, and projects [1]. The way knowledge is shared among individuals is tied to its pragmatic nature [18]. Because ERP requires firms to integrate processes across an organization, one of the most important areas of knowledge sharing in an ERP implementation is sharing of the knowledge that individuals possess about processes and business frameworks [26]. Therefore, we define knowledge sharing in this study to be the sharing of knowledge about business processes and the related knowledge required to make these processes work. "In order for an individual's or a group's knowledge to be useful for others, it must be expressed in such a manner as to be interpretable by the receivers" ([1], p. 110). Thus, we examine knowledge sharing during ERP implementation to identify factors that facilitate this expression.

ERP implementation teams typically consist of organizational members from a variety of functional areas and organizational divisions. These teams are charged with the implementation of the ERP system, which begins with the initial analysis of current organizational processes and data (often referred to as the 'as is' stage), includes the planning of organizational process and data changes the ERP is used to bring about ('to be'), and extends through training users and installing the completed package for use. Opportunities for knowledge sharing are present on the team because the knowledge that individuals must have for ERP implementation is more diverse than the knowledge required for traditional jobs [3]. This gives rise to conflicts that make the management of knowledge sharing complex. This is particularly evident where team members represent independent silos and want to retain their own identity. An ERP implementation team interacts with other organizational members to gather relevant information and keep them informed about changes to expect when the ERP is implemented [39]. Ideally, there is an intensive exchange of knowledge between the team and the organizational members they represent [3]. Inadequate knowledge sharing between these two groups contributes to unsuccessful ERP implementation [33,34,43].

Successful ERP implementation requires organizational groups to break down barriers to knowledge sharing. ERP systems integrate business processes across functions and units, thereby creating a divergence in the required knowledge of organizational members [3]. Organizational members must understand more than just the piece of the whole that they have traditionally been required to know [39] and must understand where and how their function fits in the entire process [46].

A firm's culture is the shared beliefs, ideologies, and norms that influence organizational actions or behavior [35,42]. It is both a key driver and inhibitor of organizational knowledge sharing [32]. Organizational culture may also be thought of as knowledge resource because it provides the context within which organizational members create, acquire, share, and manage knowledge [17,18,24]. "In many organizations, a major cultural shift may be required to change employees' attitudes and behavior so that they willingly and consistently share their knowledge" ([1], p. 126). Thus, organizations must foster the underlying culture necessary to support knowledge sharing activities [24]. Because organizational culture influences member's attitudes towards knowledge sharing