Assimilation of Enterprise Information Systems: Knowledge Support from People and Systems

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ABSTRACT

Prior research has indicated that employees rely on their informal social network to acquire knowledge essential for assimilating new technologies into their work practices. This study investigates the role of the help desk and online help in providing knowledge support for individual users and workgroups after the implementation of an Enterprise Information System. In addition to the informal social network, the people-driven help desk and system-driven online help are incorporated into a multi-modal social network framework to understand their synergistic impact on implementation success. The findings of the study indicate that the help desk provides knowledge support to both individuals and workgroups, while online help has a nuanced effect that depends on the density of individual and workgroup social network connections. The study further emphasizes the relevance of multi-modal social networks in understanding the combined network effects of people and systems.

KEYWORDS
Assimilation, Enterprise Information System, Help Desk, Knowledge Support, Multi-Modal Network, Online Help, Social Networks

INTRODUCTION

Enterprise Information Systems (EIS) refer to large integrated systems that are used by many employees across various functional groups influencing both organizational data and core business processes (Aburub, 2015; Kini & Basaviah, 2013). Information System (IS) researchers accord special focus to studying EIS as they are complex systems requiring large investments that can prove very costly if not successfully implemented. As such systems change core business processes and require users to re-learn their jobs to complete their day-to-day tasks with the new system, employees face many knowledge barriers in assimilating this new technology into their work practices (Huang & Handfield, 2015; Ranjan, Jha, & Pal, 2016; Zare & Ravasan, 2014). Consequently, both researchers and practitioners seek to understand the types of support mechanisms that can help employees easily assimilate the system to have a positive impact on their jobs (Ranjan et al., 2014; Staehr, Shanks, & Seddon, 2012).

Formal training programs have been found useful, and few organizations implement EIS without such programs (Gupta, Bostrom, & Huber, 2010; Mahyar & Safavi, 2013). However, formal training
programs do not guarantee implementation success, and researchers have found that knowledge sharing via informal social networks can be a valuable supplement that influences employee ability to assimilate the system into work practices. While formal training provides technical information, employees take advantage of their informal social networks to seek contextual knowledge from other employees and find new ways to assimilate the system into their work (Phelps, Heidl, & Wadhwa, 2012; Sasidharan, Santhanam, Brass, & Sambamurthy, 2012; Sykes, Venkatesh, & Johnson, 2014). These studies conclude that organizations must recognize and support the social networks of both individual employees and workgroups to help achieve EIS implementation success. However, relatively neglected in this line of research are two additional and potentially very important sources of support that can help employees implement a new information system: the help desk and online help. This paper explores the relevance of social networks in facilitating knowledge support through the help desk and online help and its impact on EIS implementation. In addition, it adopts a multi-modal network framework and emphasizes both the individual and workgroup level of analysis, and examines how information systems such as online help can interact with workgroup network structure to enable EIS implementation.

**Help Desk**

The help desk consists of technically trained personnel responsible for responding to employee requests and helping them resolve their problems with the system. The help desk is specifically established by the organization as part of the Information Technology (IT) service function to support employees in their understanding and use of new technologies, and is viewed as contributing to implementation success (Czegel, 2015; Santhanam, Seligman, & Kang, 2007). Early IS research conducted within the context of simple, single-user IS, found that the availability of technical support personnel at the help desk increased employee satisfaction with new systems (Govindarajulu & Reithel, 1998; Mirani & King, 1994). However, research on help desks have largely been abandoned because of reports of user dissatisfaction with such formally established channels of support and the notion that help desk personnel lacked business domain expertise (Sykes, Venkatesh, & Gosain, 2009). But case study observations on IS implementation suggest that technical personnel at the help desk are indeed helpful to employees and act as knowledge brokers to disseminate technology related information across units (Pawlowski & Robey, 2004).

**Online Help**

Distinct from the organizationally arranged people-driven help desk function, the system itself is embedded with online documentation that can serve as an additional support mechanism for employees as they attempt to assimilate the system into their work practices. This facility is system-driven and system-dependent, usually designed by the vendor and not by the organization, and accessible to employees at all times to obtain immediate information (Dutke & Reimer, 2000; Mao & Brown, 2005). In the context of EIS, research indicates that the usability of online help documentation could influence the acceptance of the new system, yet in-depth investigations have seldom been conducted (Scott, 2008). Information sourced from the online help function can be further clarified through knowledge exchanges with other employees via their informal social network.

**Knowledge Acquisition and EIS Implementation Success**

Organizations must examine all knowledge seeking activities of employees and provide commensurate support as it will have a direct bearing “in achieving business benefits from the ERP system” (Staehr et al., 2012, p 439). Therefore, this study adopts a multi-modal theoretical framework (Kane & Alavi,
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