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Future Business Journal 1 (2015) 75–87

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Full Length Article

Understanding Knowledge Management System antecedents of performance impact: Extending the Task-technology Fit Model with intention to share knowledge construct

Ghada R. El Said*

Future University in Egypt (FUE), 90th St., Fifth Settlement, New Cairo, Egypt

Received 25 March 2015; received in revised form 11 November 2015; accepted 12 November 2015
Available online 5 December 2015

Abstract

Little investigations have been made to examine the effect of employees' intention to share knowledge on Knowledge Management Systems' (KMS) use, lack of contribution from users has been listed as a failure factor for KMS. Researchers generally assess KMS by frequency of use, disregarding system impact on employees' performance, despite its impact on the system's long-term success. This paper contributes to KMS research by extending Task Technology Fit (TTF), a model which is widely employed to study KMS, with the intention to share knowledge construct, in investigating the determinants of KMS performance impact.

The paper starts with exploratory study, where interviews were conducted with a sample of KM users to explore possible constructs. In light of the interview results, a research hypothetical model was built integrating system and task characteristics constructs of TTF model. To validate the model, a survey was then conducted with 95 administration and technical staff of different managerial levels, for two different Knowledge Management Systems in two organizations. Intention to share knowledge, task characteristics, perceived Task Technology Fit, KMS characteristics, and utilization were found to have substantial influences on KMS performance impact. Among the key factors, intention to share knowledge was found to be especially important as it positively and significantly affects perceived Task Technology Fit, utilization, and KMS performance impact.

The suggested integrated model helps for better understanding of KMS from the perspective of users' motivation, system design, and tasks. This paper contributes-with academic and practical implications for KMS researchers, developers, and managers.

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Keywords: Knowledge Management Systems (KMS); Task-Technology Fit (TTF); Intention to share knowledge; Performance impact; Utilization

*Tel.: +20 1282802082; fax: +20 225743297.
E-mail addresses: ghada.refaat@fue.edu.eg, ghadarefaat_04@hotmail.com.

Peer review under responsibility of Faculty of Commerce and Business Administration, Future University.

http://dx.doi.org/10.1016/j.fbj.2015.11.003

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1. Introduction

Knowledge Management System is a system for applying and using knowledge management principles throughout a process to create, transfer, and apply knowledge in organizations (Dimitrijevic, 2014). Throughout KMS, organizations aim to effectively use the existing knowledge to create new knowledge and to take action, achieving sustainable competitive advantage from knowledge-based assets (Alavi & Leidner, 2001).

Considered as complex and multi-faceted systems, KMS research should be concerned about its different aspects, such as: individuals' knowledge contribution, organization structure and culture, fit between technology and tasks it supports, performance indicators, measurable benefits, and much more (Akhavan, Jafari, & Fathian, 2005; Frost, 2014). Nevertheless, much of the existing research on KMS focuses mainly on the potential role of IT (Alavi & Leidner, 2001). Most of KMS models end with utilization as an ultimate goal, neglecting the impact the system can achieve on employees' and organizations' performance. Consequently, some researchers indicate that due to shortage of research in these various aspects, KMS failure rate reached 50%, and that this percentage could be even higher if including all KMS that did not impact organizations up to their expectations (Akhavan et al., 2005; Anantatmula & Kanungo, 2010; Frost, 2014).

Among the diverse theories employed to investigate KMS utilization is Task-Technology Fit (TTF), which suggests that technology utilization is governed by the good fit between system's features and the requirements of the task. This paper goes beyond KMS utilization and investigates its performance impact on individuals in organizations. The paper integrates the individuals' knowledge sharing intention construct with the TTF constructs, to suggest a KMS utilization and performance impact model.

By suggesting and empirically validating this integrated model, the paper helps to understand KMS usage and performance impact from the perspective of organizational task, technology, and individual's intention to share knowledge. It also contributes to KMS research strand by providing academic and practical implications for implementers, managers and researchers.

2. Literature review/theoretical framework

2.1. Knowledge Management System

Knowledge is a vital asset and a significant resource of any organization; it conveys meaning and hence tends to be much more valuable, yet more ephemeral (Sharda, Delen, & Turban, 2014). Knowledge management contents typically focus on firm's strategic objectives such as innovation, improved performance, competitive advantage, as well as success stories and lessons learned. Hence, Knowledge Management Systems (KMS) can play a significant role in improving organizational and individual performance. Considered as the memory of the organization by leveraging the collective knowledge of the company from one project to another, substantial investments are done in technology infrastructure for KMS. Yet, little is known about return on investment for KMS, in terms of impact on employees and organization performance (Bock, Zmud, Kim, & Lee, 2005; Sharda et al., 2014).

KMS incorporates: create and capture new knowledge, support and facilitate content management, and share and re-use knowledge to generate value (Alavi & Leidner, 2001). Therefore, individual contributions, technology acting, and task structure are three of the main aspects of KMS (Frost, 2014). There is an increasing need within organizations to comprehend the antecedents of KMS usage and impact on employees' performance from the perspective of these various aspects (Goodhue, 1995; Alavi & Leidner, 2001; Akhavan et al., 2005).

2.2. Task Technology Fit Model (TTF)

The Task-Technology Fit Model (Goodhue, 1995) asserts that information technology should be a *good fit* with the tasks it supports, in order to be utilized and to positively affect users performance (Goodhue & Thompson, 1995). The model highlights the importance of the *fit* between information system features and users' tasks and needs, leading to performance impacts. Task-Technology Fit and performance impact are two important constructs which were missing or implicit in other IS adoption models.

The Task-Technology Fit Model provides insight on how technology, user tasks, and utilization impact user performance (Goodhue & Thompson, 1995). The TTF suggests that both, task characteristics and technology

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