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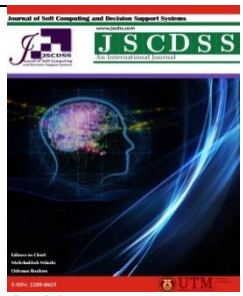

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Customer Knowledge Management Enhancement in Enterprise Software Development Firms: Experts Perspective on a Theoretical Framework

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Abstract

Application of Customer Knowledge Management (CKM) in different companies, particularly software companies, is growing. Significant beneficial outcomes of CKM encourage companies to implement CKM. This study proposes a theoretical framework based on CKM antecedent factors in enterprise software development companies. The level of significance of CKM antecedent factors was identified by experts. A Theoretical CKM Framework was developed by extracting Technological, Organizational and Human factors from the previous works, then, the "Technique for order of Preference by Similarity to Ideal Solution" (TOPSIS) was used to identify the significant ones. The extracted factors were evaluated by 31 experts in the related domain. The results show that, from an expert viewpoint, the significant factors are classified into high and low level groups. Due to the importance of CKM for organizations, this study provides a significant contribution to CKM by extracting and ranking CKM antecedent factors for enterprise software development. It is proposed that software companies emphasize high priority antecedent factors for successfully implementing CKM.

Keywords: Software Quality, TOPSIS, Customer Knowledge Management

1. Introduction

Software quality in organizations requires a long enhancement process and mature business processes for product production (Yeung, Lo, Yeung, & Cheng, 2008). Research on the organizational conditions such as Customer Knowledge Management (CKM) that improve software quality in software companies' has not been given much attention. Compared to other types of software, the quality of Enterprise Software (ES) is the most vital, since sales of ES include products and services which are associated with it (Cho, Subramanyam, & Xia, 2013). ES needs related services such as installation, customization, maintenance (repair and updates), training, and routinization (Cho et al., 2013; Sarrab & Rehman, 2014). Adoption in ES requires long-term organizational and financial commitments. Compared to other types of software products, the supported requirements of ES are unique and depend on CKM (Aho & Uden, 2013). These related services require the customer and end user comments, feedback, suggestions, complaints and end user experiences (knowledge from customers). Customization needs more information from customers who suggest new solutions for software enhancement. High quality ES can reduce the cost of service delivery. Investigating how to improve software quality is much demanded in enterprise software development (Cho et al., 2013). According to Knowledge Based View (KBV), CKM is effective organizational factor that enhance software quality in software companies (Garrido-Moreno, Lockett, & García-Morales, 2014). The outcomes of this study help companies focus on significant CKM factors and reduce organizational resource waste. Understanding the antecedent weights helps software companies improve the success rate for CKM projects and motivate managers to implement CKM. Despite many studies that have examined CKM antecedent factors in multiple contexts, none of them are comprehensive enough to capture all factors into one single framework.

In this study, an empirical study was conducted to investigate possible factors influencing CKM. The questions that were asked in this study are: (a) What are the CKM significant factors in an organization based on Human, Organization and Technology frameworks? (b) What framework is appropriate to weigh and prioritize antecedent factors using TOPSIS for ES development companies?

This paper evaluates the importance level of CKM critical factors. This study proposes a framework to weigh and prioritize CKM antecedent factors based on expert viewpoints using TOPSIS in enterprise software development. To achieve this goal, this report has the following sections. In Section 2 the related works are reviewed. In Section 3 a theoretical framework was developed based on CKM important factors extracted from the literature. In Section 4, the proposed framework was