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Guidelines for Selecting Appropriate Knowledge Management System Implementation Frameworks

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ABSTRACT

The preservation of knowledge is a universal requirement for every organisation that strives to gain a competitive advantage. Knowledge management systems are a modern business enabler and driver of success. Furthermore, the implementation of knowledge management systems is a comprehensive process which integrates people, business processes, the business universe, technology, and customers. However, some evidence suggests that organisations are investing a multiplicity of resources in implementing knowledge management systems with little success. Therefore, the aim of this study is to identify and understand the types of frameworks available for implementing knowledge management systems and present a comprehensive implementation framework including the relevant critical success factors and measurement tools that organisations may use for implementing knowledge management system projects. The successful implementation of knowledge management systems lie in the adoption of a suitable strategy and well-defined framework.

KEYWORDS

Implementing Knowledge Management Systems, Knowledge Management, Knowledge Management Frameworks, Knowledge Management Strategy

INTRODUCTION

The world is in the midst of transforming through the production of products and services enabled by the digitalisation process: the fourth industrial revolution (Hermann, Pentek, & Otto, 2016). The fourth industrial revolution, also known as Industry 4.0, refers to the use of disruptive technologies, such as; robotics, virtual reality, artificial intelligence and Internet of Things (IoT) (Hermann et al., 2016; Xu, David, & Kim, 2018). There is severe competition between organisations and immense pressure on said organisations to deliver high-quality products and services. Organisations that embrace knowledge management systems can meet most of these business requirements speedily, efficiently

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and with minimum effort, as well as increase their subsidies and profit margin through improved service and product delivery (Chen, 2013; Milton & Lambe, 2016). To maintain a competitive edge, organisations must satisfy customers' requirements by producing high-quality services which are expedited by embracing a Knowledge Management System (KMS) (Al-Shammari, 2008; Pawlowski & Bick, 2012).

A KMS is a set of defined business processes, procedures and activities used to implement knowledge management principles (Lech, 2014; Milton & Lambe, 2016). The ultimate objective of adopting a KMS is to enable the organisation to make quick, informed decisions, reuse institutional and individual experience to solve known problems, and stimulate innovation (Chen, 2013; Hermann et al., 2016). In addition, it could enable organisations to retain tacit knowledge, maintain proper content governance and authentication, increase focus on outcomes, enforce best practices and work smarter through knowledge refinement (Chen, 2013; Hermann et al., 2016).

However, current studies show that KMS implementation could be problematic across all sectors and multiple reasons are cited for this lack of KMS delivery (Botha, Botha, & Herselman, 2014; Coleman, 2014; Smuts, Van Der Merwe, Loock, & Kotzé, 2009). Some of the causes highlighted include the absence of defined business processes and unclear roles and responsibilities. Furthermore, the implementation of a KMS is costly, it requires dedicated human resources, a deep understanding of the subject domain and the ability to present knowledge in the most ideal format (Lenz, Peleg, & Reichert, 2012; Nonaka, 1994). The successful implementation of KMS lies in the understanding and adoption of a comprehensive and relevant framework (Maier, 2005; Smuts et al., 2009; Wiig, 1994). The KMS implementation framework must always provide the ability to measure its success, that is, identifying the difference that KMS brings to the organisation (Jennex, Smolnik, & Croasdell, 2008; Milton & Lambe, 2016).

Therefore, the objective of this paper is to explore KMS implementation frameworks and identifying the elements that will guide organisations when implementing a KMS. The research question that this study aims to address is: *What aspects of knowledge management will guide organisations to implement KMSs successfully?* The purpose of said guidelines are that they enable organisations to identify the nature of their KMS project and align it to the most relevant framework. The paper presents the critical success factors aligned to the identified framework aspects. By applying the guidelines of the most applicable framework, organisations save time, costs and the effort of having to investigate and choose an ideal KMS implementation framework. Adoption of the relevant, fit-for-purpose framework increases the chances of the KMS project succeeding as guidelines keep the teams focused, align to implementation plans and strategies, and avoid known implementation problems.

The paper is structured as follows: next to be discussed is the background, followed by the research methodology used, and a discussion of the findings. The contribution of the study is then presented where after two real-world cases are mapped to the framework aspects suggested by this paper. Finally, the paper is concluded.

BACKGROUND

Recent studies conducted on KMS implementation ascertain that most organisations find it challenging (Chen, 2013; El Morr & Subercaze, 2010). The absence of defined processes, procedures, roles and accountability is the main reason why KMS projects fail (Lech, 2014; Milton & Lambe, 2016). This finding is reiterated by Milton and Lambe (2016) who state that without accountability a job or task is not allocated to anyone. Without clear processes no one knows how it should be done, without the correct technology there is a loss of structure and discipline, and with no governance, no one sees the value of taking part. In addition, if practical guidelines and frameworks exist, there would be increased adoption of knowledge management (KM) practices (Ali & Avdic, 2015; Pawlowski & Bick, 2012; Smuts, Kotzé, Van der Merwe, & Loock, 2017), and there would be more organisational resources devoted to KMS projects.