

ABSTRACT

An Investigation into an Integrated Knowledge Management Approach for Industrial Enterprises

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Knowledge management (KM) is a trans-disciplinary approach to improving organisational outcomes through maximising the use of knowledge. Many researchers and practitioners put forward that the trans-disciplinary approach would help organisations to measure and monitor their performance. This research identifies two problem statements: First, could industrial enterprises safeguard their performance with KM and performance measurement (PM) initiatives? And second, how could an integrated KM approach be derived for measuring performance in these enterprises? This research proposes an integrated paradigm that aligns KM practices to attain performance goals in industrial enterprises with particular reference to those in the manufacturing sectors in Trinidad and Tobago.

A two-stage empirical study was conducted. Of 120 targeted industrial enterprises in the Stage-One survey, 49 responses were obtained, yielding a response rate of 40.8 percent. The survey identified common success factors and problematic areas (including obstacles and barriers) under four categories, namely 1) Environmental/Market, 2) Company/Operational, 3) People, and 4) Technical. It also examined the relationship among KM determinants and KM performance in the studied organisations. The subsequent personal interviews complemented the survey findings by examining the impact of KM/PM efforts in industrial enterprises. There were two series of interviews. The first series acquired the practitioners' views on the decision criteria on integrating KM with PM initiatives,

with the aid of Analytical Hierarchy Process (AHP) methodology. The second series derived several design elements and process considerations for KM performance measures that contributed to the development of an Integrated Knowledge Management (IKM) model.

The IKM model incorporated the criteria of KM performance and the design of self-assessment instrument, scoring method and facilitative tools. It constituted five categories of criteria, comprising the *Senior Management Leadership*, *Continuous Improvement*, *KM Processes*, *People Development*, and *Results Orientation*. The self-assessment mechanism advocated by the Business Excellence frameworks was adopted to develop the IKM scoring method, and a total of 1,000 score points was derived for performing self-assessment exercises. The results of an experts' panel discussion and a post-evaluation survey verified the potential applicability of the IKM model. It was affirmed that the model was theoretically sound, and together with the accompanied self-assessment instrument, scoring method and facilitative tools could help organisations to profile their strengths and weaknesses, and identify improvement opportunities with respect to the set of KM performance criteria and sub-elements.

The novel contributions of this research are firstly, to identify the key KM attributes and relate them to the design of KM performance metrics, and secondly, to develop the IKM model with the self-assessment scoring system and tools for use in industrial enterprises. Future research could validate the key determinants and criteria of KM performance, and develop an implementation framework with IT-enabled capabilities to foster the IKM efforts in industrial enterprises across various sectors.

Keywords: Knowledge management (KM), performance measurement (PM), IKM model, self-assessment, industrial enterprises