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Designing a Maturity Model of World-Class Knowledge Management based on the Excellence Model: A Mixed approach

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Abstract

World-class organizations are continuously trying to determine their Knowledge Management (KM) position. In this regard, having a KM maturity model is essential. The purpose of this research is to design a World-Class Knowledge Management (WCKM) maturity model based on the excellence model using mixed method research. The statistical population of this research is the subsidiaries of the Iranian Ministry of Petroleum, and the top managers of these subsidiaries were selected as statistical analysis unit. Based on an in-deep review of the relevant literature, the components of the enabler of KM implementation and the indicators pertaining to the key results of WCKM performance were determined. Then, the enablers and the key results were identified and verified using exploratory and confirmatory factor analysis techniques. Finally, through comparative study and phenomenology method, qualitative coding was performed and the levels of maturity model were determined. The obtained results show that the thirteen enablers of KM implementation and the four key results of WCKM performance were determined. The WCKM maturity model based on the excellence model includes six levels, namely, chaos, initial (awareness of the need for knowledge), coordinating and standardization of knowledge, knowledge optimization, knowledge continuous improvement, and eruption of knowledge and innovation, respectively. Managers and policymakers of the surveyed organizations, specifically, and other organizations in general, might use the proposed model towards assessing their KM maturity level and outperforming their competitors.

Introduction

The most fundamental characteristic of intelligent organizations in the 21st century is focused on knowledge and information. Knowledge Management Maturity Model (KMMM) is a powerful tool which can create knowledge changes and innovation all over the world (Nastiezaie & Noruzi Kuhdasht, 2017). In past studies, various KMMMs were presented (Pee & Kankanhalli, 2009; Lotti Oliva, 2014; Serenko et al., 2016). Each of KMMMs has played a key role in the development and success of KM in organizations and has developed the different levels of maturity using methods such as reviewing the literature of previous models, interviewing, and surveying the organizations' experts. These models have designed their own specific methodology to determine the levels of KM maturity. Given the KMMMs presented in previous studies, finding a KM maturity model based on the excellence model that can provide the highest competitive advantage for organizations based on world-class criteria is less seen and is considered as the research gap. In other words, the research aims to design the levels of KM maturity model based on the enablers of KM implementation and the key results of the WCKM performance measurement. In order to design such a model, three main questions are raised: 1- What are the enablers of KM implementation? 2- What are the key results of the performance measurement of WCKM? 3- How is the WCKM maturity model based on the excellence model?

Case study

The Case Study of present research includes subsidiaries of Iranian oil industry, namely National Iranian Oil Company (NIOC), National Petrochemical Company (NPC), National Iranian Oil Refining and Distribution Company (NIORDC) and National Iranian Gas Company (NIGC).

Materials and Methods

Based on the result, this study is a fundamental research and in terms of methodology is an exploratory-descriptive. The research approach is a mixed method research of embedded design type. In the library study, the systematic literature review was done based on the model proposed by Ruschel et al. (2017) and the components of the enablers of KM implementation and the criteria of the key results of the WCKM performance measurement were extracted as the examined codes. The field study consists of two parts, quantitative and qualitative data collection. The data collected in quantitative part were analyzed using the exploratory and confirmatory factor analysis and SPSS and Smart PLS software. In the qualitative section, synergy between the enablers of KM implementation and the key results of the WCKM performance measurement was determined using comparative study approach and the levels of WCKM maturity model based on the excellence model are designed using the phenomenological approach and qualitative coding method.

Results

According to the obtained results, the thirteen enablers were identified and confirmed to enable the of KM implementation that including “Human Resource Management”, “KM Processes”, “Information Technology”, “Business Strategy”, “Intellectual Capital”, “KM System”, “Executive Practices of KM”, “Management Information System”, “Culture”, “Partnership and Cooperation with Business Partners”, “KM Road Map”, “Leadership Commitment and Support”, and “Organizational Environment” (Kazemi & Zafar Allahyari, 2010; Lin, 2013; Lotti Oliva, 2014; Valmohammadi and Ahmadi, 2015; Jahani et al., 2016). Also, the obtained results show that the four main key results of WCKM performance measurement are namely, “Knowledge Quality”, “Knowledge Utility”, “Knowledge Innovation”, and “Business Results”. The main result of the research shows that the WCKM maturity model was designed based on the enablers of KM implementation and the key results of the WCKM performance measurement. This model has 6 levels which include: Level 0: chaos, Level 1: initial, Level 2: coordination and standardization of knowledge, Level 3: knowledge optimization, Level 4: continuous improvement of knowledge, and Level 5: knowledge eruption and innovation.

Discussion and Conclusion

The main contribution of this study is to design a WCKM maturity model based on the excellence model. Some levels of the maturity model are supported by Pee & Kankanhali (2009) and Khatibain et al (2010). The main difference between the research maturity model with other maturity models is that in this study, the KM maturity model was designed to reach the world-class. Also, in this study, the enablers of KM implementation were used to achieve the key results of WCKM performance, which shows the research maturity model has been designed based on the excellence model. Also, creating a new level of KM maturity called the knowledge eruption and innovation derived from world-class knowledge-based organizations in competitive markets is another difference of the maturity model of this research.

Key Words: World-Class Knowledge Management, Maturity Model, Excellence Model, mixed approach, Oil industry