

Chapter 102

Modeling the Knowledge Sharing Barriers: An ISM Approach

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ABSTRACT

In the knowledge-based economy, the survival and growth of the engineering industries depends upon the knowledge management (KM). In the present environment, KS is the corner stone of the KM. Some variables hinder KS in the industries are known as knowledge sharing barriers (KSBs). The objective of this paper is to identify and recognize the critical KSBs and their mutual influences in the industries. The interpretive structural modeling (ISM) methodology has been used to develop hierarchy of the identified KSBs evolving their mutual relationships. Identified KSBs at the root of the hierarchy (called driving KSBs) and at the top of the hierarchy (called dependent KSBs). It is observed that two KSBs namely “lack of top management commitment” and “KM is not well understood” have highest driving power. Therefore, these KSBs require serious attention by the managers in the engineering industries. The study concludes with discussion and managerial implications.

INTRODUCTION

In a knowledge-driven economy, knowledge is considered as the economic resource and the only source of competitive advantage (Singh & Kant, 2009). KS is the key of successful KM (Singh & Kant, 2008). Riege (2005) has stated that the identification and recognition of KSBs plays an important role in the success of KM strategy. KS

practices often seem to fail because industries try to fit KM strategy and KS practices in their existing culture. Nonaka and Konno (1998) have expressed that knowledge is possessed by individuals and the transfer of individual's knowledge into organizational knowledge depends upon the employee's KS attitude. At present, KS is very crucial for an industry but still individuals do not share their knowledge because they aware of

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their value in the organizations (Davenport, 1995). KS can help the individuals to remain valuable in the organizations. Gibbert and Krause (2002) have argued that knowledge workers cannot be enforced to share their knowledge but can be motivated to share. Ruggles (1998) has said that a motivational method to encourage KS attitude but changing the attitude of individuals is one of the biggest challenges for the success of KS and KM strategy. Hence, it is important to know about barriers which hinder the KS because it is not easy to translate the individual's tacit knowledge (resides in the human mind) into organizational knowledge.

In this research, ISM methodology has been used to impose order on the complexity of identified KSBs. It is also used to form a cluster, which define their driving and dependence power. KSBs with high driving power support to the KSBs with lower driving power. Similarly, KSBs with high dependence power are influenced or supported by the KSBs with lower dependence power (Raj et al, 2008). In this research, twenty eight critical KSBs have been identified which hinder the smooth KS among the employees in the engineering industries. The opinions from a group of experts from industry as well as from academia have been used to establish mutual relationships among the identified KSBs and to develop the structural self-interaction matrix (SSIM). SSIM has been used to portray the ISM model for the hierarchy of the identified KSBs

This paper has been organized into seven sections, including the introduction and literature review to identify the KSBs. The third section presents the ISM methodology. The fourth section presents MICMAC analysis for classification of KSBs and the fifth section presents the development of ISM model. The sixth section deals with Conclusion and result, while the seventh presents practical implications and directions for future research.

LITERATURE REVIEW

In this paper, twenty eight critical KSBs have been selected based on literature reviewed as shown in table 1. The identification of KSBs and their interdependency has been discussed as below.

The top management of an engineering industry is directly responsible for developing the culture, vision, policies, financial resources, training, infrastructure, information technology, transparent rewards and recognition systems and adoption of new management technologies such as KM (Kant & Singh 2009). Hence, lack of top management's commitment hampers the effective KS. KS may be hindered if concept of KM is not well understood by the stakeholders of the engineering industries. Success or failure of the KS strategy depends upon the integration of KM strategy in to the business strategy of the engineering industries. Lack of integration of KM occurs because industries try to fit KM strategy in to their existing culture which results the hindrance of successful KS (Reige, 2005). Cost incurred in capturing, categorizing and setting access rights for knowledge hampered due to the lack of financial resources (Happel et al., 2007). Organizational culture provides collaborative environments for knowledge sharing that requires individuals to come together to interact and exchange ideas with one another (Skok & Tahir, 2010). Lack of transparent reward system within an engineering industry can reduce the KS practice. The engineering industries should have the transparent reward and recognition system for the knowledge possessors to voluntarily participate in the knowledge sharing activities (Han & Anantatmula, 2007). An appropriate infrastructure and sufficient resource to facilitate KS practices within and between the functional areas is an important part of the KM strategy (Schlegelmilch & Chini, 2003). In engineering industries, if the emphasis is given to individual rather than team, the KS activities are hampered

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