Chapter 15
Knowledge Management for Health Care and Long-Term Care in the Technology-Organization-Environment Context

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ABSTRACT

The objective of this chapter is to propose a framework examining the impacts of technological, organizational and environmental factors on the innovation adoption of knowledge management (KM) in long-term care context. This chapter begins with the definition, rationale and importance of KM. Secondly, KM stories, KM in long-term care, prior frameworks in long-term care and knowledge barriers in health care settings will be reviewed. Furthermore, the KM for long-term care in Technology-Organization-Environment (TOE) framework is discussed and proposed. The technology dimension includes security, complexity and costs. Besides, organizational dimension is composed of top management support, firm size, nursing leadership and the readiness. For environmental dimensions, this chapter will focus on competitive pressure and vendor support. As KM is proven to understand performance in long-term care organizations, the proposed framework provides insight to health care organization leaders on how to enhance the effectiveness of KM system.

INTRODUCTION

Over the past ten years, more studies have shown that effective Knowledge Management (KM) improve the overall business performance (Choi et al., Fugate et al., 2009; Ho, 2008; 2008; Lee et al., 2012; Liao and Wu, 2009; Noruzy et al., 2013; Zack et al., 2009). Survival of any healthcare organizations heavily depends on KM, such as implementing evidence-based medicine in daily healthcare activities, retrieving

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evidence-based reports, and providing quality of care to patients by exchanging the knowledge among several partners of healthcare organizations. In fact, public health decision is evidence-based, which is mainly data-driven, and healthcare sector can be advantageous through the implementation of KM. KM in long-term care has focused exclusively on improving processes by incorporating KM practices. For example, employing digital dashboard can support touch-points in long-term care work flow by consolidating real-time information for users to view key performance indicators, making data much more useful for users. As mentioned by Pan & Jang (2008), Technology-Organization-Environment (TOE) framework was developed to study the adoption of technological innovations. This framework was widely adopted in many industries: information technology (Low, Chen, Wu, 2011), government (Pudjianto, Zo, Ciganek & Rho, 2011), auditing (Rosli, Yeow & Siew, 2012) and hospitality (Racherla & Hu, 2008). This chapter will overview KM, discuss the importance of KM in long-term care, KM stories and prior frameworks in long-term care, knowledge barriers and examine critical factors that enhance KM in long-term care using the TOE framework.

WHAT IS KNOWLEDGE MANAGEMENT?

KM aims to make the right knowledge available to the right people at the right time so that the best possible strategies and outcomes can be delivered. The purpose of KM is to identify, create, transfer and apply knowledge to achieve better strategic objectives, resulting in enhancing organizational performance (Choi et al., 2008, López-Nicolás and Meroño-Cerdán, 2011). KM is concerned with innovation and sharing behaviors and improvement of capabilities through learning (Moustaghfir and Schiuma, 2013). In addition, KM assists in managing complexity and ambiguity through knowledge networks and connections, exploring smart processes and deploying appropriate tools and technologies (Bharati et al., 2015). There are several sub-strategies discussed in the literature within the domain of KM. Firstly, the concepts of exploitation and exploration are introduced by March (1991). Secondly, Hansen et al. (1999) compare and contrast two KM sub-strategies for a classic study in managing knowledge - codification and personalization. The former one is concerned about how knowledge is codified, stored and accessed through computerized databases; whereas the latter one refers to how knowledge is shared through direct contact among organizational members and/or with technology support (Hansen et al., 1999). Pourhamidi (2013) further contends that the characteristics of codification are similar to those defined in exploitation whilst those attributes in personalization are consistent with the concept of exploration. A broader perspective has been adopted by Choi and Lee (2003), who argue that there are system-oriented and human-oriented KM sub-strategies. The adoption of different KM strategies in recent literature is summarized in Table 1.

Apart from the above-mentioned sub-strategies, there are several key models in KM domains. This section aims to provide an overview on these models. Firstly, Nonaka and Takeuchi (1995) have developed the knowledge spiral model which is composed of four quadrants: (1) socialization; (2) externalization; (3) combination; and (4) internalization (SECI). This model demonstrates how different forms of knowledge conversion occur. First, socialization refers to the tacit-to-tacit conversion. Moreover, combination takes place when pieces of explicit knowledge are synthesized or combined. Thirdly, tacit knowledge from one's mind is converted to explicit form through externalization. When explicit knowledge is converted to tacit form, it is called internalization. Nonaka and Takeuchi (1995) have further pointed out that the sharing and conversion of knowledge is a continuous process and the knowledge spiral is developed. The