Chapter 23

Human Competency as a Catalyzer of Innovation Within Health and Nursing Care Through a Perspective of Complex Adaptive Systems

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ABSTRACT

The aim of this article is to analyze some features of nursing manager competencies as a potential agent of innovation through a perspective of complex adaptive systems. To achieve the objective, an empirical quantitative analysis of the data obtained through structured questionnaires was conducted to identify the key aspects of perceptions related to competencies. The results demonstrated a disparity between what nursing managers perceived as "my strength" and what they perceived as "critical in adopting innovation" with respect to competencies. This study empirically identified key competencies relevant to nursing managers in adopting innovation through a perspective of encompassing complex adaptive systems. The nursing managers surveyed tended to consider their strengths included interpersonal understanding, teamwork, self-control and concern for order. From a viewpoint of innovation adoption, there is room for improvement for nurses to develop such competencies as initiative, team leadership, conceptual thinking, analytical thinking, and organizational awareness.

INTRODUCTION

Today, adaptation to innovation for healthcare institutions is one of the most important management agendas (Djellal and Gallouji, 2005; Lillrank, 2018). In particular, large acute care hospitals equipped with leading-edge technologies and high-caliber professionals are currently facing significant transformative processes due to technological innovation (Gallouji and Windrum, 2009; Matsushita, 2017; Lillrank, 2018).

The hospital where the authors conducted the research is one of the largest acute care hospitals in Japan equipped with cutting-edge technologies. Innovation based on new technologies currently introduced by this hospital includes: molecular targeted medicine, da Vinci (a surgical support robot), bone marrow transplant, Interactive voice response/computer-telephony (IVR-CT) integration, minimally invasive endoscopic treatment, gene-modified cell therapy, chromosome examination, high intensity open intensive care unit, telemedicine, next-generation multi-slice computed tomographic scanning, artificial intelligence diagnostic imaging system, electric medical and health records and introduction of standardized and harmonized terminology. The introduction or adoption of technological innovation has had an impact not only on clinical procedures for patient care but also on healthcare and nursing management areas such as information/knowledge management, inter-professional team collaboration, human resources management, and organizational development.

Given that a hospital is a critical social system through which adoption and diffusion of innovation occur, the in-house innovators related to a wide range of healthcare practices can play a central role in facilitating innovation adoption. Currently, in-house innovators including physicians, nurses, therapists, and medical technologists function via communication channels of inter-professional teams involving nursing managers. Thus, the process of innovation adoption inevitably requires nursing managers, who are accustomed to more ordinary accountabilities, and thus they should evolve to have a different competency set from their conventional set. However, there is a lack in empirical research work analyzing nursing managers' perception of competencies required to adopt innovation in Japan. Therefore, this study aims to empirically analyze the characteristics of competencies of nursing managers as innovation adopters, to see if they can perform their jobs and facilitate adoption of technological innovations.

BACKGROUND

The institution where this research was conducted was a Japanese acute care hospital with one thousand beds. The hospital is located in the western part of mainland of Japan. The hospital currently employs four hundred physicians, thirteen hundred nurses, one hundred pharmacists and five hundred diverse co-medical practitioners. The context of this study was based on concerns that nursing managers may not be au fait in facilitating innovation; indeed, some had to effectively adapt to new technologies while others had not. Consequently, hospital management regarded that there was the possibility for improvement in the alignment of continuing education systems in developing competencies in order to effectively adopt technological innovations. Then, senior management requested the authors to research and identify areas of improvement in competency development, especially from the standpoint of innovation adoption on the part of nursing managers.

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