Managing the implementation of an innovative technology in a hospital: a case study

Shamshul Bahri
Department of Operations and Management Information Systems, Faculty of Business and Accountancy, University of Malaya, Kuala Lumpur, Malaysia

Abstract

Purpose – The purpose of this paper is to present a model of radio frequency identification (RFID) implementation process in a hospital. The model is developed to fill the lack of models on RFID implementation in a hospital setting.

Design/methodology/approach – The case study research and grounded theory approaches are combined. The data are collected through repeat interviews with the hospital’s RFID manager and the IT vendor. The data are analysed using the grounded theory approach.

Findings – The main finding of the paper is the RFID implementation process model in a hospital. The model consists of key activities that have occurred during the unfreezing, moving and refreezing stages of the implementation.

Research limitations/implications – The generalisability of the model may be limited because it is based only on a single hospital’s RFID implementation.

Practical implications – RFID managers in hospitals need to be aware that the technology’s implementation is no different to other types of information systems implementation. However, they also need to be aware of the contextual differences in their hospitals before the model can be adapted.

Originality/value – The RFID implementation process model could guide existing and future RFID managers in hospitals. The three stages of the model will enable the managers in identifying the different emphasis needed in each stage.

Keywords Hospitals, Radio waves, Communication technologies, Modelling

Paper type Research paper

1. Introduction

Radio frequency identification (RFID) technology has been one of the latest and most popular innovations in healthcare (IDTechEx, 2008). The technology has been developed into systems to track mentally impaired patients, prevent kidnapping of babies, and track assets (Health Devices, 2005). However, RFID managers cannot simply base their RFID implementation on implementation models of other domains. They need to be aware of the differences between RFID and other types of technology implementation. RFID technology collects users’ data ubiquitously, thus the users do not have to operate the system like any other type of information system (IS). As a result, the users are hidden from the technology’s complexity. Therefore, the system is expected to be installed without much resistance from the users. This expectation is compounded by the assumption that RFID is an input device (Stair and Reynolds, 2008), therefore the implementation is simply a “plug and play” exercise. This assumption of RFID implementation has been supported by the review of the RFID literature, which was found to focus more on the technology’s technical aspects (Ngai et al., 2008).

The assumption that RFID implementation is just a “plug and play” exercise is misleading and could lead to implementation failures. Although RFID is an input device (Stair and Reynolds, 2008), the technology offers the greatest value to organisation when it becomes an IS (Doerr et al., 2006). When the technology’s implementation is