

## Chapter 5.6

# Managing ICT in Healthcare Organization: Culture, Challenges, and Issues of Technology Adoption and Implementation

**Nasriah Zakaria**  
*Universiti Sains, Malaysia*

**Shafiz Affendi Mohd Yusof**  
*Universiti Utara, Malaysia*

**Norhayati Zakaria**  
*Universiti Utara, Malaysia*

### ABSTRACT

The objective of this chapter is to illustrate a case study of a medical research institute in Malaysia in order to discuss issues pertaining to ICT adoption in healthcare organizations, in particular exploring the culture, challenges, and issues of ICT adoption among medical teams, patients, etc. In this chapter, we examine the question of ‘What are the challenges of implementing ICT in healthcare organizations?’ Some of the lessons learned from the case study were: ICT was successfully adopted and implemented based on several factors such as supportive organizational culture, competent

IT workers, committed IT department and heavy investment on ICT infrastructure. Yet challenges also arise which hinges upon factors like initial deployment of outside IT resources or expertise for ICT implementation, lack of user training and continuous communication between involved parties in the initial stage.

### INTRODUCTION

This chapter consists of six sections highlighting issues on information and communication technology (ICT) adoption and implementation. The first section discusses the phenomenon of ICT adoption in healthcare institution. Second, we include literature

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reviews based on three perspectives that oftentimes pose challenges to the deployment of ICT: (1) organizational, (2) people, and (3) technology. Third, we highlight the methodology of the study in this chapter which is a case study. In this section, we provide the background of a single case study -- a medical research institute in Malaysia -- to illustrate lessons learned and challenges of ICT adoption and implementation. Fourth, we present our findings which is the detailed descriptions of the issues and challenges based on an analytical framework called 5Ws (what, when, why, where, and who) as well as from the three perspectives mentioned above. Fifth, we provide the discussions in light of lessons learned and the contribution of the study. Lastly, the chapter concludes by summarizing the findings for healthcare institutions that intend to adopt and implement ICT in their organizations and presents the directions for future research undertakings.

In the era of globalization and information age, healthcare industries are intensely promoting and adopting ICT to improve patient care. When more and more patients as health consumers seek and prioritize quality in their lives through enhanced healthcare treatments and services, it places great demands on the health care industry's information-handling abilities and infrastructure (Bodenheimer, 1999). As supported by a recent World Bank (2006) report, "Reliable information and effective communication are crucial elements in public health practices. The use of appropriate technologies can increase the quality and the reach of both information and communication."

In line with this, Malaysia as a developing country has invested heavily in ICT with the mission and vision to improve patient care. Malaysia realizes that patients with healthy lives are better able to maintain healthy minds, healthy lifestyles, and a balance between work and family. In a similar vein, healthcare service organizations also seek for optimal strategies and solutions to increase their medical services. When introducing ICT, these organizations need to consider carefully

the challenges that arise from it such as whether the organizational culture is supportive towards any ICT adoption and implementation, whether the organization can build ICT infrastructures that are efficiently and effectively, and whether the organization is willing to recruit, select, and employ competent human resources to use ICT as tools.

For example, according to the study by Mass and Eriksson (2006), when ICT was introduced and hospital staff were unprepared for changes because there was no adequate information given by the technology providers, the immediate result was a lack of knowledge of the new clinical requirements, and users who were ignorant of how to use the new technology; the larger consequence, was a slowed process of implementation and adoption. On the other hand, organizations like hospitals have now realized the potential of integrating ICT into their organization. Technology is reshaping organizations by blending their information systems with rapidly advancing telecommunication technology (Frenzel & Frenzel, 2004). In addition, management teams feel that having ICT integrated into their systems will improve and strengthen healthcare systems in the future. Ragam (2007) asserts that successful ICT adoption will lessen errors considerably, if not totally eliminate them. In addition, according to the World Health Organization, technologies form the backbone of services to prevent, diagnose and treat illness and disease. ICTs are only one category of the vast array of technologies that may be of use, but given the right policies, organization, resources and institutions, ICTs can be powerful tools in the hands of those working to improve health (WHO, 2004).

Besides ICT becoming the catalyst factor for economic growth, it serves as an essential medium of communication between patients and medical teams. Studies have shown that in face-to-face encounters, patients often refuse to share or disclose their illness to support groups such as medical teams, family or friends, even when such

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