

Prioritizing Critical Factors to Successful Adoption of Total Hospital Information System

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Abstract

Although the benefits of adopting Hospital Information System (HIS) innovation are well known, only a few hospitals in Malaysia have actually adopted it. Surprisingly, there is scarcity of study specifically in the context of Malaysia related to Total Hospital Information System (THIS) adoption. Therefore, the aim of this study is to provide more insight regarding the THIS adoption in the context of Malaysia and as well to explore the potential factors that are connected to the hospitals' adoption of THIS technology. To this end, this study developed a conceptual framework on the basis of Technology Organization Environment (TOE) for the adoption of THIS by Malaysian hospitals. Accordingly, a Fuzzy AHP model is developed to determine the weights of factors in the three categories for the THIS adoption. These factors are identified and compared by hospital experts and decision makers, who are fully familiar of THIS technology with also professional management and decision-making experience in the healthcare industry. Then fuzzy AHP is applied to compute the weights of incorporated factors in the THIS adoption model. This can result at fostering the uptake of HIS and facilitating its reluctant trend by improving the decision of hospitals towards THIS adoption.

Keywords: Total Hospital Information System, Hospital, TOE framework, Fuzzy AHP

1. Introduction

Physicians and patients today are encountering great pressures from the healthcare setting. In the perspective of physicians, their irritation is originating from heavy patient's loads, administrative tasks, and losing patient care decision control (Lee and Ramayah et al., 2012). While patients are complaining that during the medical interaction, more consideration should be provided on them (Kassirer, 2000; Sulaiman and Wickramasinghe, 2014). Therefore, there are more demanding on electronic services from patients to be given by physicians. But unfortunately, the healthcare industry has been criticized for being slow in the adoption of technology to support delivery of care (Wickramasinghe, 2000; Stegwee and Spil, 2001; Suomi, 2001; Menachemi and Burke et al., 2004; Wager and Lee et al., 2005).

In Malaysia, people are acquiring a broad range of healthcare services in a low price. But according to Lee et al. (2012), "factors like changing pattern of death causing diseases from infectious diseases to chronic diseases, population structure, lifestyle, and healthcare service expectation from the people have distorted the status quo". Furthermore, there is an increasing rate of Malaysia healthcare expense which has been occurring every year (Ahmadi et al., 2015). In this regard, there is a big pressure on Malaysia government to enhance the quality of healthcare and reduce the cost (Lee and Ramayah et al., 2012). Hence, to overcome these issues there are several

projects developed by the Malaysian government with the aim of also promoting and maintaining the wellness of citizens and to provide greater access to healthcare information.

Hence, to overcome and solve such challenges, several projects have been inaugurated by the Malaysian government for the purpose of also delivering higher access to healthcare information and improving the wellness of citizens. Telemedicine is one of the domains that has been targeted for drastic improvement (Abdullah, 2008; Lee and Ramayah et al., 2012).

In addition, the Lifetime Health Plan (LHP) is amongst the four key projects which concentrate on fostering healthcare platform to permit the general hospitals to give personal LHP to the public. Under the LHP project, Hospital Information System (HIS) is introduced to commence the process of digitalization within the healthcare sector (Abidi, Goh et al., 1998; Mohd and Syed Mohamad, 2005; Ismail and Abdullah et al., 2013; Ahmadi et al., 2014a; Ahmadi et al., 2014b).

In Malaysia, three types of hospital information system introduced under the Telehealth project in Malaysia: Total Hospital Information System (THIS), Intermediate Hospital Information System (IHIS), and Basic Hospital Information System (BHIS) (Hassan, 2004; Mohan and Razali Raja Yaacob, 2004; Lee, Ramayah et al., 2012; Ismail, Abdullah et al., 2013). HIS decision applications are according to the number of beds that the particular hospital has. THIS gives an integrated system whereas BHIS is the lowest and