

# An Innovation Model for Health Information Systems (HIS) in Hospital: a case study

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**Abstract** One of the major challenges that ascended during the improvement of health care service in any countries is the introduction of new health care technologies and clinical systems. Therefore, a successful implementation of the Hospital Information System (HIS) plays a vital role in the process. The aim of this study is to develop a reflection model of the Health Information Systems implementation process. This study has been conducted as a qualitative research. In-depth interviews to the project leader of IT department in Cicendo Eye Hospital, reports, newsletters and other information were collected. In addition, a range of medical databases has been analyzed to identify the key concepts that related to the implementation and adoptions of Health Information Systems in organizational settings. Based on the case study, a novel model of Health Information Systems enactment was proposed. The model consisted of 5 stages, including pre – initial, initial, development, implementation, and maintenance. The findings of this study are expected to become parameter and help healthcare professional in developing practical guidelines in the sector.

**Keywords:** “Health Information Systems; hospital; implementation”

## INTRODUCTION

Currently, the challenges that are faced by healthcare service organizations are becoming more and more difficult to overcome. The difficulties come from the challenges to better serve and meet dynamic customers' needs, to meet and exceed higher consumer expectations, to maintain lower healthcare costs, to better handle an increase of aging population, to provide easier access to information, and to adapt with continual advancements in technology (Azis & Osada, 2013). Drawing on health information technology (HIT) innovations to improve the quality and safety of care is now firmly established as a priority area throughout much of the economically-developed world (K. Cresswell & Sheikh, 2013). Research all over the world have shown that on one hand, using HIS leads to provide qualitative, customer-oriented and cost effective care services and on the other hand, the system can provide timely access to complete and accurate information (Bahlol Rahimi, Safdari, & Jebraeily, 2014). Adoption of IT applications is shown to improve the provision of health services through: reducing errors of omission; reduce errors due to adverse drug effects; lowering the number of errors in prescribing; improving the efficiency of time doctor and patient; provide better oversight; reducing days of hospitalization; and improving the integration of information and data (Zhang et al., 2013). Although the use of modern technology offers many opportunities, this technology comes with risks.

Modern information systems are costly and the failure of such systems can have negative effects on Patients and operators and can waste the time of healthcare professionals if they are not properly designed (Farzianpour, Shojaei, Arab, and Foroushani, 2016) (Farzianpour, Shojaei, Arab, & Foroushani, 2016).

Failure of information systems projects cannot be easily defined, because success and failure factors of projects are diverse. Every person has a different understanding of the meaning of failure, but from the overall view, a project is failed when not being an optimum qualified to meet the goals and expectations as well as the project specification (Farzandipur, jeddi, & Azimi, 2016). According to Greek local policy reports, lack of strategy and a proactive, capable and active hospital management, organizational issues and bureaucracy, incompetent IT departments, lack of adequate planning and difficulties in the integration of models and encodings appear to be bottlenecks towards the successful introduction of IT systems far more than any, technical and financial barriers [4], [5]. The successful development and utilization of Integrated Hospital Information Systems, is considered to be a great challenge (Zikos, Diomidous, Mitsios, Doudounakis, & Mantas, 2010).

In order to fulfill the country's healthcare objectives, the Cicendo Eye Hospital has endeavored to reorganize and improve its IT systems of major