

## Chapter 75

# Critical Success Factors in Health Information Technology Implementation: The Perspective of Finnish IT Managers

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### ABSTRACT

*Health Information Technology (HIT) implementation success factors are evolving and proliferating, making it difficult for both researchers as well as practitioners to focus their limited resources on narrowing down those factors that impact success the most. A nationwide survey conducted on Finnish information technology (IT) managers to evaluate the critical success factors (CSFs) for HIT implementation in the order of importance unveils (1) system quality, (2) service and information quality, and (3) the support of leaders to be among the top ranking CSFs. Finnish IT managers generally prioritize system-related success factors higher than collaboration-related success factors. This research is among the first to provide survey-based empirical foundation for success factor prioritization in HIT implementation. It also aims to unravel IT manager decision-making in CSF-ranking process. Further, it enables the identification of success factors, which are rated important but may not have yet been considered sufficiently. One counter-example is “the involvement of physicians as project champions,” which has often been seen as crucial to HIT implementation, although project champions were rated at the bottom of the CSF list being surveyed.*

DOI: 10.4018/978-1-4666-8756-1.ch075

## **1. INTRODUCTION**

An ongoing debate on how healthcare organizations can achieve greater success in implementing Health Information Technology (HIT) has evolved (Ash et al. 2003a; Brender et al. 2006; Heeks, 2006; Kaplan & Harris-Salamone, 2009). Today, healthcare professionals are still seeking knowledge of and continued to be highly interested in ways to help HIT implementation projects to succeed (Martikainen et al. 2012). Thus, there is a need to examine key factors that will lead to HIT implementation success, more specifically, factors that should be most attended to in the context of competing priorities.

Many studies (e.g. Alexander et al. 2011; Archer & Cocosila, 2011; Ash et al. 2003a; Ash et al. 2003b; Ash et al. 2005; Baron et al. 2005; Gagnon et al., 2009, 2010; Lorenzi et al., 2008, 2009; McGinn et al. 2011) have attempted to identify the success factors for HIT implementation. Ash et al. (2003a), for example, reported on twelve (12) principles towards achieving a successful Computerized Physician Order Entry (CPOE) Implementation. Brender et al. (2006) presented a collection of 110 success factors; unfortunately, such success factor lists are long and unwieldy, and it can be difficult to see which ones should have received more attention than others. Thus, as also pointed out by other researchers (Khandelwal & Ferguson 1999; Remus & Wiener, 2010), prioritization of crucial success factors from the less crucial is necessary.

The current understanding of HIT implementation success factors is based on the gradual accumulation of mainly case and action research results (Nguyen et al. 2014), all of which would need further examination with sound methodological applications. Some prior work obtains the list of success factors from the opinion of expert panels (Ash et al. 2003a; Brender et al. 2006; Kaplan & Harris-Salamone, 2009). However, members of expert panels were mainly from academic institutions and the number of participants was limited.

Other integrative work has relied on literature reviews (e.g. Cresswell & Sheikh 2009; Lau et al. 2012; Lluch, 2011; Van der Meijden et al. 2003), but few attempted to study practicing managerial opinions on success factors. Sudhakar (2012), for example, applied the approach of prioritizing critical success factors from an existing success factor list for software projects. The ranking method in this paper was based on the number of occurrences of a given success factor in the prior literature, rather than first-hand empirical data. No article was found to survey IT manager opinions in ranking HIT implementation success factors by priority.

The role of IT managers is crucial as they are often responsible for the initiation and implementation of information systems (Enns et al. 2003; Leidner et al. 2010; Watts & Henderson, 2006). IT managers, through their experience, can know best which relevant factors have been crucial for successful implementation of the projects; therefore, it is imperative to understand the perceptions of IT managers regarding relative importance of success factors in HIT implementation.

This research aims to reassess and synthesize the critical success factors (CSFs) influencing HIT implementation, focusing on the question: "What are the CSFs in HIT implementation from IT managers' point of view?" A survey conducted on Finnish IT managers results in the priority success factor list. This paper discusses the top ten factors from this list. The study is organized in five sections. Section 2 reviews the prior research to deduce a comprehensive list of HIT implementation success factors from different stakeholders in different contexts (e.g. major hospitals and small clinical practices in rural areas). Section 3 describes the research methodology. Section 4 highlights the study results on the top ten CSFs found while Section 5 delves further into an illustrative discussion on one of these CSFs. Section 6 details the conclusion and limitation of the research.

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