

Chapter 60

The Need for a Socio–Technical Analysis in E–Health: The Case of the PCEHR

Imran Muhammad

Epworth Research Institute, School of Business IT and Logistics, RMIT University, Australia

Say Yen Teoh

Health Innovations Research Institute, School of Business IT and Logistics, RMIT University, Australia

Nilmini Wickramasinghe

Health Innovations Research Institute, School of Business IT and Logistics, RMIT University, Australia

ABSTRACT

Healthcare systems around the globe are facing a number of challenges. Thus Increasing focus is being placed on constructing appropriate healthcare reforms which are attempting to address how to tackle these challenges. A critical enabler in these reforms is the adoption of an e-health solution. Such e-health solutions are not only expensive and complex endeavours, but also have far reaching implications. Given that the implementation and adoption of these e-health solutions is so important, not to mention also requiring a substantial investment in various resources such as time and money, it is therefore essential to ensure their success. The following proffers a socio-technical analysis as an appropriate strategy to ensure more successful outcomes. An exemplar case study of the Personally Controlled Electronic Health Record (PCEHR), the chosen e-health solution by the Australian government is provided to illustrate the benefits such an analysis might provide

INTRODUCTION

The aim of this study is to address a significant void in the existing literature; namely, the lack of incorporating a socio-technical analysis in healthcare contexts to ensure heightened success

of ICT implementations in healthcare. An evaluation of the Personally Controlled Electronic Health Record (PCEHR) a chosen e-health solution in Australia is provided as an exemplar case to illustrate the benefits of such an approach.

DOI: 10.4018/978-1-4666-6339-8.ch060

Motivation for the Study

Given current challenges in healthcare delivery most countries are currently investing heavily in ICT (Information Communication Technology) in general and e-health solutions more specifically. Australia, like many other countries is also investing heavily in E-health initiatives. Specifically, in the federal budget (2010-11) the Australian government has allocated Au \$466.7 million over two years to develop and implement a national Personally Controlled Electronic Health Record (PCEHR) system for all Australians by 2012. This is a significant investment in the hope of transforming the healthcare delivery system in Australia. This implementation has raised many interesting questions concerning policy issues such as patient privacy, security, identification and management of consent for participation and data collection as well as technical issues concerning system complexity and user understanding of system, lack of standards and protocols, disparate health information systems and frameworks for integration as well as complex user interfaces (Currell et al., 2000; Hall, 2010; Leslie, 2011; Showell, 2011; Westbrook & Braithwaite, 2010). These issues are very important to look into for smooth and successful system implementation and sustainable adoption (Bernstein et al., 2007a; Tang, Ash, et al., 2006; Trudel, 2010; Liu et al., 2011; HFMA, 2006). These key areas of issues can be categorised as social aspects and technical aspects.

An essential aspect then becomes to provide an evaluation of such systems especially since to date no such framework exists to make substantive critiques on PCEHR; its strengths, benefits, weaknesses as well as an examination of the social and technical aspects. Moreover, no study does this from a socio-technical perspective.

Background

Healthcare is an information rich industry (Wickramasinghe & Schaffer, 2010). In addition, today

all OECD countries are facing major challenges in trying to deliver quality healthcare services (Wickramasinghe et al., 2009). This confluence of factors makes the need for a comprehensive system, one that can not only handle multispectral data and disparate information but also can improve the flow of this information between key stakeholders (for example: service providers, consumers, government agencies and healthcare managers) to improve health outcomes and quality of care (Mort et al., 2009), a necessity.

Health information systems in general and e-health solutions more especially have the potential to do this; and hence we see the key role for e-health solutions on all healthcare reform agendas today (Wickramasinghe & Schaffer, 2010; Mort et al., 2009; Car et al., 2008). It is for these reasons that in Australia, the government has chosen to adopt a personally controlled electronic health record (PCEHR).

Although there are many benefits of health information technology (Buntin et al., 2011; Devaraj & Kohli, 2000; Goldzweig et al., 2009; Shekelle, Morton, & Keeler, 2006; Tang et al., 2006; Wu et al., 2006) the transformation is difficult and the level of adoption and usage of such systems is generally low (Kaelber et al., 2008; Steinbrook, 2008). Issues relating to the adoption and usage of such systems in healthcare environments are not just technical in nature but are multidimensional and include organisational, cultural, legal and social considerations as well (Ammenwerth et al., 2006; Catwell & Sheikh, 2009; Cresswell et al., 2011; Lorenzi et al., 2009; DesRoches et al., 2008; André et al., 2008).

To fully explore all issues pertaining to successful adoption and usage of e-health solutions and technology in general in healthcare, researchers have rightly argued that IT based interventions in healthcare settings should be evaluated with theoretically informed techniques (Wickramasinghe & Schaffer, 2010). One approach advocated in the literature is the application of a socio-technical perspective based evaluation of complex health-

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/the-need-for-a-socio-technical-analysis-in-e-health/116268

Related Content

Workarounds: Risk or Benevolence for Patient Safety?

Nada Nadhrah and Vaughan Michell (2015). *Healthcare Administration: Concepts, Methodologies, Tools, and Applications* (pp. 285-322).

www.irma-international.org/chapter/workarounds/116221

Determinant Factors of Physicians' Acceptance of E-Health an Empirical Study: Physicians' Acceptance of E-Health

Md Rakibul Hoque, Adnan Mustafa Al Bar and Md. Jahangir Alam (2018). *Handbook of Research on Emerging Perspectives on Healthcare Information Systems and Informatics* (pp. 467-482).

www.irma-international.org/chapter/determinant-factors-of-physicians-acceptance-of-e-health-an-empirical-study/205139

Worksite Clinics

(2015). *Flipping Health Care through Retail Clinics and Convenient Care Models* (pp. 149-167).

www.irma-international.org/chapter/worksite-clinics/115799

Theater and (Narrative) Medicine: Fortifying Ethics in Healthcare Education

Maria de Jesus Cabral (2023). *Global Perspectives on Probing Narratives in Healthcare* (pp. 250-262).

www.irma-international.org/chapter/theater-and-narrative-medicine/324298

Development of EHR Using Blockchain Technology

Manabili Nath, Akangsha Goswami, Smriti Suman, Ritu Agarwalla, Boddu Venkateswarlu, Malaya Dutta Borah and Naresh Babu Muppalaneni (2023). *Revolutionizing Digital Healthcare Through Blockchain Technology Applications* (pp. 74-96).

www.irma-international.org/chapter/development-of-ehr-using-blockchain-technology/320967