

Chapter 66

How an Actor Network Theory (ANT) Analysis Can Help Us to Understand the Personally Controlled Electronic Health Record (PCEHR) in Australia

Imran Muhammad

RMIT University, Australia

Nilmini Wickramasinghe

Epworth Healthcare, Australia & RMIT University, Australia

ABSTRACT

Australia has designed, developed, and now implemented its national e-health solution known as the Personally Controlled Electronic Healthcare Record (PCEHR). This is a unique system as it subscribes to a shared governance model between patients and providers. To date, though, as with other national e-health solutions, there is poor uptake and much concern regarding the success of this multi-million dollar project. The authors contend that while these implementations and adoptions of e-health solutions are necessary, it is essential that an appropriate lens of analysis should be used in order to maximise and sustain the benefits of Information Systems/Information Technology (IS/IT) in healthcare delivery. Hence, in this chapter, the authors proffer Actor-Network Theory (ANT) as an appropriate lens to evaluate these various e-health solutions and illustrate in the context of the Personally Controlled Electronic Health Record (PCEHR), the chosen e-health solution for Australia.

INTRODUCTION

Globally, governments are increasingly investing in health information technology particularly in digitalising health records as well as other e-health

solutions. This is in response to immense pressures of changing patient demographics, health, financial implications, work force shortages, advancements in medical technologies and their impact on healthcare demand and delivery as well as a

DOI: 10.4018/978-1-4666-8756-1.ch066

move towards a system where interaction between healthcare providers and consumers can achieve maximum output with limited human and financial resources (Wickramasinghe and Schaffer 2010).

It is well established that healthcare is an information rich industry (ibid). The underlying assumption in support of the introduction of IT (information technology) in healthcare service delivery is that by improving the ways of accessing and sharing information across healthcare systems and moving away from pen, paper and human memory towards a new environment, where key stakeholders (for example: service providers, consumers, government agencies and healthcare managers) can reliably and securely share information electronically, will significantly improve health outcomes and quality of care (Mort et al. 2007), help with cost savings, improve patient involvement and produce useable secondary data for further research and training (Car et al., 2008). However, such a transformation is not a straightforward proposition and is sometimes faced with many known and unknown hurdles such as (technological, organisational, financial and people issues) because of the complex and multifaceted environment of healthcare service delivery where different human and non-human actors interact with each other in multiple ways (Ammenwerth et al., 2006; Catwell and Sheikh, 2009; Cresswell et al. 2010; Lorenzi et al., 2009; DesRoches et al. 2008; André et al. 2008).

Further, given the inherent complexities of healthcare operations, it has been argued that these kinds of interventions are challenging and need to be evaluated with theoretically informed techniques (Wickramasinghe and Schaffer, 2010). One approach identified in the literature, to facilitate correctly and accurately capturing the complexities and levels of interventions in healthcare operations, is to use a Socio-Technical Systems (STS) perspective (Wickramasinghe, Bali, & Lehaney, 2009; Yusof et al., 2007; Aarts et al., 2004). A Socio-Technical system is described as a system where technical dimensions and social dimen-

sions of a system are interrelated (Cresswell et al. 2010). To determine the functionality of a system, it is important to understand a better fit between technical sub-systems and social sub-systems in an organisation (Mitchell & Nault 2008). This emphasis then is on not only studying the impact of the technology on organisations and their work processes but also the impact of social and people issues on technology and processes (Cresswell et al. 2010). For this reason, it is also important to understand the inter-relationship and interactions of the two between each other (Coiera, 2004).

To provide an even richer and more accurate picture of key healthcare operations as well as the impact of technology on these scenarios several scholars have argued that Actor-Network Theory (ANT) should be used together with an STS perspective (Wickramasinghe, Bali, & Lehaney, 2009; Yusof et al., 2007; Aarts et al., 2004; Cresswell et al. 2010). Hence, this paper reflects on the use of Actor-Network Theory to evaluate the Personally Controlled Electronic Health Record (PCEHR) in the Australian context in an attempt to demonstrate the merits of such an approach.

THE PERSONALLY CONTROLLED ELECTRONIC HEALTH RECORD (PCEHR)

Before discussing the PCEHR and its benefits, it is important to first understand that there are many different terminologies and vocabularies used interchangeably for clinical communication and electronic record handling and storage. In general all these terms typically make up the myriad of e-health solutions currently discussed in most countries. The ambiguity in the use and significance of the terms used can become an obstacle in the progress of ehealth adoption. If the definition of the term used for the system is not clear, this can complicate the contractual matters along with policy expectations and directives and expected features of product. It further

16 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/how-an-actor-network-theory-ant-analysis-can-help-us-to-understand-the-personally-controlled-electronic-health-record-pcehr-in-australia/138459

Related Content

Employing Opportunistic Networks in Dementia Patient Monitoring

Radu-Ioan Ciobanu and Ciprian Dobre (2016). *E-Health and Telemedicine: Concepts, Methodologies, Tools, and Applications* (pp. 1017-1047).

www.irma-international.org/chapter/employing-opportunistic-networks-in-dementia-patient-monitoring/138444

IFEDH: Solving Health System Problems Using Modelling and Simulation

Niki Popper, Florian Miksch, Günther Zauner, Harald Piringer, Ingrid Wilbacher and Felix Breitenacker (2013). *International Journal of Privacy and Health Information Management* (pp. 28-37).

www.irma-international.org/article/ifiedh/102628

Assessment of Liver Function Using Hybrid Neuro-Fuzzy Model of Blood Albumin

Mashhour Bani Amer (2010). *International Journal of Healthcare Information Systems and Informatics* (pp. 49-59).

www.irma-international.org/article/assessment-liver-function-using-hybrid/47431

Healthcare Information System Modelling

Jean-Luc Hainaut, Anne-France Brogneaux and Anthony Cleve (2013). *Handbook of Research on ICTs and Management Systems for Improving Efficiency in Healthcare and Social Care* (pp. 539-558).

www.irma-international.org/chapter/healthcare-information-system-modelling/78042

Queuing Theory and Discrete Events Simulation for Health Care: From Basic Processes to Complex Systems with Interdependencies

Alexander Kolker (2010). *Health Information Systems: Concepts, Methodologies, Tools, and Applications* (pp. 1874-1915).

www.irma-international.org/chapter/queuing-theory-discrete-events-simulation/49971