Chapter 66
How an Actor Network Theory (ANT) Analysis Can Help Us to Understand the Personally Controlled Electronic Health Record (PCEHR) in Australia

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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

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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 dimensions 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