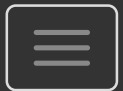


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Why Using Actor Network Theory (ANT) Can Help to

# Understand the Personally Controlled Electronic Health Record (PCEHR) in Australia

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Source Title: [International Journal of Actor-Network Theory and Technological Innovation \(IJANTTI\)](#) 4(2)

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Pages: 17

DOI: 10.4018/jantti.2012040105

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## Abstract

Globally, healthcare reforms are being initiated to address the tremendous challenges facing healthcare systems. Without exception these reforms include the implementation of a variety of e-health solutions. Such e-health solutions are complex and have far reaching implications. In this paper, the authors argue that while these implementations and adoptions of e-health solutions are necessary, it is essential that an appropriate lens of analysis should be used to maximise and sustain the benefits of IS/IT (information systems/information technology) in healthcare delivery. Hence, in this paper, 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.

## Article Preview

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

It is well established that healthcare is an information rich industry (Wickramasinghe & Schaffer, 2010). 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 (e.g., 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, Finch, & May, 2009), 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, Iller, & Mahler, 2006; Catwell & Sheikh, 2009; Cresswell, Worth, & Sheikh, 2010; Lorenzi, Kouroubali, Detmer, & Bloomrosen, 2009; DesRoches et al., 2008; Andr , Ringdal, Loge, Rannestad, Laerum, & Kaasa, 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 & 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, Doorewaard, & Berg, 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 et al., 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.

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