Chapter 28
Achieving E-Health Success:
The Key Role for ANT

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ABSTRACT

Healthcare delivery continues to be challenged in all OECD countries. To address these challenges, most are turning their attention to e-health as the panacea. Indeed, it is true that in today's global and networked world, e-health should be the answer for ensuring pertinent information, relevant data, and germane knowledge anywhere anytime so that clinicians can deliver superior healthcare. Sadly, healthcare has yet to realize the full potential of e-health, which is in stark contrast to other e-business initiatives such as e-government and e-education, e-finance, or e-commerce. This chapter asserts that it is only by embracing a rich theoretical lens of analysis that the full potential of e-health can be harnessed, and thus, it proffers Actor-Network Theory (ANT) as such a lens.

INTRODUCTION

Superior access, quality and value of healthcare services have become a global priority for healthcare to combat the exponentially increasing costs of healthcare expenditure. E-Health in its many forms and possibilities appears to offer a panacea for facilitating the necessary transformation for healthcare. While a plethora of e-health initiatives keep mushrooming both nationally and globally, there exists to date no unified system to evaluate these respective initiatives and assess their relative strengths and deficiencies in realizing superior access, quality and value of healthcare services. Our research serves to address this void. Specifically, we focus on three key components namely: 1) understanding the web of players (regulators, payers, providers, healthcare organizations, suppliers and last but not least patients) and how e-health can modify the interactions between these players as well as create added value healthcare services. 2) the development of an e-health preparedness grid that provides a universal assessment tool

DOI: 10.4018/978-1-5225-3926-1.ch028

for all e-health initiatives and 3) the development of an e-health manifesto, a declaration of policy, intent and the necessary components of successful e-health initiative. Taken together and applied systematically this will then enable a critical assessment of the areas that e-health initiatives should best target as well as the necessary steps and key success factors that must be addressed such as technological, infrastructure, education or policy elements. However, the paper goes further and notes that simply being e-health prepared is a necessary but not sufficient condition. It identifies the need to incorporate a rich theoretical lens of actor-network theory (ANT) in order to truly uncover all key issues and thereby ensure successful realization of the full potential of any e-health solution.

HEALTHCARE

Healthcare is a growing industry. Between 1960 and 1997 the percentage of Gross Domestic Product (GDP) spent on healthcare by 29 members of the Organization for Economic Cooperation and Development (OECD) nearly doubled from 3.9 to 7.6% while the growth between 1995-2005 was on average 4% with the US spending the most (nearly 2.5 times more than any other country) and this is expected to reach 19.5% GDP by 2017[1]. Since 2000, total spending on healthcare in these countries has been rising faster than economic growth, which has resulted in an average ratio of health spending to GDP of 9.0% in 2008 (OECD, 2010). Hence, reducing this expenditure as well as offering effective and efficient quality healthcare treatment is becoming a priority globally as is reflected in the fact that all OEDC countries are looking seriously into healthcare reform and especially the role for e-health solutions (OECD, 2010). Technology and automation have the potential to reduce these costs (Ghani et al., 2010; America Institute of Medicine, 2001; Wickramasinghe, 2000); thus, e-health, specifically the adoption and adaptation of web based technologies and advancements through Web 2.0, appears to be a powerful force of change for the healthcare industry worldwide.

Such external environmental forces are translating into numerous changes with regard to the role of technology for healthcare delivery at the organizational level. So much so that we are witnessing, healthcare providers grasping at many opportunities, especially in response to legislative mandates, to incorporate IT(information technology) and telecommunications with web based strategies to improve service and cost effectiveness to their key stakeholders; most notably patients. Many such e-initiatives including the e-medical record which in some form or other is currently being implemented in various countries. However these do not seem to represent a coherent and universal adoption of e-health.

To date, healthcare has been shaped by each nation's own set of cultures, traditions, payment mechanisms and patient expectations. Therefore, when looking at health systems throughout the world, it is useful to position them on a continuum (Figure 1) ranging from high (essentially 100%) government involvement (i. e. a public healthcare system as can be seen in the UK or Canada) at one extreme to little (essentially 0%) government involvement (i. e., private healthcare system as can be seen in the US) at the other extreme with many variations of a two tier system (i. e. mix of private and public as can be seen in countries like Australia and Germany) in between. However, given the common problem of exponentially increasing costs facing healthcare globally, irrespective of the particular health system one examines, the future of the healthcare industry will be partially shaped by commonalties such as this key unifying problem and the common forces of change including: i) empowered consumers, ii) e-health adoption and adaptability and iii) shift to focus on the practice of preventative versus cure