

Examining Different E-Health Solutions, Barriers and Facilitators Using the Fit- Viability Model

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Abstract

The successful adoption and implementation of health information systems (HIS) has been the subject of extensive research. However, the effect of cross-cultural issues such as macro level or external factors including political, social, economical, environmental infrastructure and technology, laws and regulations; meso level or organizational factors such as leadership, management style, policies, structure; and micro level or tactical factors such as information sharing, training and learning, technical staff or user behavior have been less widely studied. Yet, it is precisely these issues that separately or in combination derail numerous HIS implementations. To examine this dilemma we proffer an unique application of the fit viability model (FVM) to facilitate a better understanding of key issues. In so doing, we answer the research question: "How can a FVM assist in unpacking these varied cross-cultural issues in the adoption and implementation of HIS?". An exploratory multiple case study methodology is adopted.

The theoretical basis of the fit construct is derived from the Task-Technology Fit model which according to Goodhue (1995; 1998) argues that a fit between task characteristics and system features needs to be high for better performance and success. Further, this fit will have an effect on the decision making process of an organization. Research (Soh et al., 2000; Goodhue, 1998) has indicated that if a system is more aligned with the requirements of the users, there are greater chances of system success which in turn leads to better performance. Hence, if the features offered by the system fit with the task requirements users will be more inclined to adopt the system. While this makes apparent sense to the casual reader, having a framework that provides definitions and systematic constraints provides for an effective operating model. Viability refers to the impact of national and organizational factors on a system adoption and implementation decision. At the national level, these factors include political and social, economic, environmental as well as infrastructure and technology factors. At the organizational level, literature has proposed many factors with strategic and tactical aspects (Umble et al., 2003; Poon and Wagner, 2001). These factors include leadership, management style, polices, information sharing, training and learning, technical staff, and user behavior. Taking the example of China, Huang and Palvia (2001) suggest that economic and technological factors are crucial factors in cross-cultural ERP system implementations, and ignoring these factors could lead to unsuccessful projects; Molla and Bhalla (2006) argue that stable economic growth and strong IT infrastructure could create better business environments and innovation adoption, positively affecting viability of the system. These national and organizational factors can be minimized in some geographic considerations while others provide extra-ordinary impact. The Fit-Viability Framework presented is then used as a systematic approach to evaluate e-health solutions. Specifically it is applied to evaluate various e-health solutions throughout the world; including in Australia the personally controlled electronic health record, in China their e-health card solution. in Germany the e-health card as well as various EMR solutions in the US. This examination serves to provide insights into these respective solutions at three levels; namely, the macro, meso and micro levels. From such an analysis we believe it will be possible to identify optimal e-health solutions and opportunities to add value.

To date, most e-health solutions have yet to realize their full potential and too many e-health solutions have exceed their budgeted costs and had low uptake. This is often due to slow user adoption, poor user satisfaction and increasing healthcare costs. The proffered use of the Fit-Viability Framework could serve to address such current dilemmas for e-health solutions around the world.