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Role of IT Infrastructure in IS Success Model

The Role of IT Infrastructure in IS Success Model: Applying the IS Success Model in Low-Income Countries Context

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ABSTRACT

DeLone and McLean's Information Systems Success model was validated empirically in many developed countries. However, it was not tested in Low-Income Countries (LICs) context where IT infrastructure is a serious hurdle for IS success. Testing the Model in LIC context assures generalizability and relevance of the model. This study looks at two research questions: (1) is the IS success model valid in LICs context? and (2) what is the impact of IT Infrastructure on IS success? To address these questions a banking information system at a large bank in Ethiopia is selected as case. The research strategy followed is field study using survey technique. Questionnaire items from prior studies are adapted, but validation of the instrument is in progress. This research-in-progress laid the theoretical background to begin data collection. The preliminary results of the study are expected to be completed and presented at the conference.

Keywords

IS success, low-income countries, Ethiopia, IT Infrastructure.

INTRODUCTION

Today companies are expected to anticipate and react to the growing demands for marketplace (Nah and Lau, 2001). To meet these requirements, companies prepare strategies (Pearlson and Saunders, 2003), strategies that make aggressive and efficient use of Information Technology (IT) as their central issue (Nah and Lau, 2001). Consequently, organizations introduced Information Systems (IS) in their business (Sharma and Yetton, 2003). Unfortunately, significant number of IS implemented are either underused or rejected by users (Sharma and Yetton, 2003).

Even if IT investments are motivated by the potential it gives organizations added benefits and competitive advantages (Bacon, 1992; Lederer and Mendelow, 1988), there were lack of theoretical insight as to what brings IS success. To fill this gap, DeLone and McLean (1992) developed IS success model to identify factors that facilitate or impede successful use of IS in organizations. However, the extent to which this model can be generalized in the context of LICs is not yet well explored.

Many LIC have contexts that are quite different from their peers in developed countries. Constraints of resource, trained labor, capital and facilities (UNDP, 2011); lack of adequate infrastructure: electricity, telecommunication and Internet (IFIP, 2007); and lack of conducive working climate: legal infrastructure, rule of law and stable political system, prevail in most of LICs. Thus, generalizing from the findings of the tests made in developed countries to LICs may result wrong reading and implement ill-equipped solutions. Consequently, using the model in LICs context, to accomplish success and thereby show the positive outcome of IT can be challenged. As a result, governments and organizations in LICs may not be motivated to invest on IS as they may not see the return of the investment.

In many LICs, IT is argued to facilitate development (Ngwenyama and Morawczynski, 2009). One of the LICs that have recognized IT as facilitator of development is Ethiopia (Ethiopian ICT Development Agency (EICTDA), 2008). Ethiopia (Kiyoa, Peitsch, and Stern, 2008) and many other LICs have liberalized many economic sectors recently (Cho and Khatkhatie, 1989; Prasad, 1997) with the expectation that there would be economic progress. One of these sectors is the banking sector (Kiyoa et al., 2008). The government of Ethiopia recognized the critical role of the banking sector, and set a strategy to modernize it using IT and IS to benefit utmost from the sector (EICTDA, 2006; National Bank of Ethiopia (NBE), 2009).

Although the government has such interest, many banks have reservation on IS investment. Indjikian and Siegel (2005) stated that lack of confidence on investment return and lack of knowledge of IS best-use practice caused reservation in LICs. Thus, identifying IS success factors that would help bring benefits to organizations and thereby motivate more investment on IT is essential for managers of organizations.

In the context where there is negative attitude towards investment on IT, there are some political leaders like the Prime Minister of Ethiopia, Meles Zenawi, who believe that IT can leverage efforts of fighting poverty (IRIN, 2005). However, there is a clear gap as to how to measure and prove success of IS use in these countries. In this regard, DeLone and McLean IS success model would have contributed and filled the gap had the applicability and power of explanation of the model is proven in the contexts of LICs.

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