Chapter 64

Initial Adoption vs. Institutionalization of E–Procurement in Construction Firms:
The Role of Government in Developing Countries

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ABSTRACT

This study explores the role of government in fostering construction firms move from initial adoption to institutionalization of e-procurement in developing countries' context. It proposes the research model that consists of five external environmental constructs that are considered as factors influencing the different levels of e-procurement adoption. It uses PLS-SEM to analyze the data collected from 112 construction businesses in Vietnam in 2012. It finds that the role of government has an extremely significant influence on a decision of initial adoption of e-procurement in construction enterprises through government leadership, legal and regulatory infrastructure, information and technology infrastructure (ITI), and socio-economic and knowledge infrastructure. However, the role of government is less important to a decision of institutionalization of e-procurement when only ITI significantly influences on the decision-making. As a result, useful theoretical and practical implications are proposed.

INTRODUCTION

E-procurement technology is referred to an advantaged method of procurement of goods, works, and services based on electronic tools, especially Internet. E-procurement alters the activities of purchasing and transforms the purchasing process from a tactical into a strategic activity. The evolution of the strategic role of a specific e-procurement is closely linked to its sophistication or integration. Literature consistently demonstrates that in order to gain full benefits and maximize potential advantages from the technology, companies must adopt and implement the technology towards a highly sophisticated level in terms of management, functions, and usage (L. Raymond, Croteau, & Bergeron, 2012). However, in both developing and developed countries, the sophisticated adoption of e-procurement in firms has fallen far below expectations. Most companies adopt the technology only at the simple but not integrated level (Le, Rowe, Truex, & Huynh, 2012; R. A. I. Raymond, Flood, & Treffinger, 2008; VECITA, 2008). Take Vietnam as an example, after nearly ten years of e-commerce infrastructure development under the master plans by the government, most enterprises are still at the first stage of adoption of Internet-based B2B e-commerce technologies (e.g. e-procurement). The rate of the sophisticated implementation of the technology is actually very low and do not match with the remarkable development of e-business infrastructure (P. Long, Pham, & Nguyen, 2010; Q. D. Tran, Vo, & Nguyen, 2011; VECITA, 2008); especially in construction industry (Umit, Jason, Murat, & Utku, 2013).

In an attempt to identify/assess determinants of adoption of e-commerce technologies, previous empirical studies considered the adoption under a general rather than process-oriented view (e.g. Chang & Wong, 2010; Le et al., 2012; Li, 2008; Teo, Lin, & Lai, 2009; Hamed Salim, Helen, & Lynne, 2013). They have focused on the adoption versus non-adoption decisions. Although these studies significantly improved our understanding of general e-commerce adoption, we also need to a better perception of the post-adoption of e-commerce technologies. In fact, there are still many practical problems have not been explained yet. For instance, given the same level of resources and the same operating environment, several firms have implemented more sophisticated e-procurement applications but others do not. In addition, several enterprises have adopted initially one or multiple simple e-procurement innovations for a long duration, and even though they have mature resources for e-commerce-based activities, but they did not conduct any subsequent implementation of the technology (Ng Kim, 2005, pg.98). According to the process-oriented view, e-commerce adoption is a complex, progressive and multi-phase process (London & Bavinton, 2006); therefore, only examining the general adoption of an innovation cannot understand well post-adoption activities (K. Zhu & Kraemer, 2005). However, the existing literature is lacking of empirical studies that pay appropriate attention on the said nature of adoption, especially in countries that are emerging as new potential markets with very high economic growth rates such as Vietnam (P. Long & Jeffrey, 2011).

In addition, a literature review of e-procurement found that the diffusion of e-procurement has been significantly improved across industries and the increasing trend of the e-procurement implementation is to move from the simple adoption to the sophistication in the near future.

In light of these, studying on the factors that speed up firms move from an initial adoption to institutionalization of e-procurement is an important consideration for more comprehensive understanding of the adoption of e-procurement in developing country's context. The present paper is to investigate empirically the role of government in decisions of e-procurement entry-level adoption and sophistication in the construction

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