

E-Procurement Institutionalization in Construction Industry in Developing Countries: A Model and Instrument

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Abstract:

The adoption of e-commerce technologies is a progressively interactive multi-phase process. Existing literature on the adoption has not been paid appropriately attention on this nature. This study distinguishes the difference between initial adoption and institutionalization of e-procurement and provides a particular focus on the investigation of determinants of e-procurement adoption in construction sector in developing countries' context. It uses formative measurement to model exogenous latent variables. As a result, a theoretical model and an instrument are constructed and empirically tested by using data collected in Hanoi. The sophistication of e-procurement is essential to gain full benefits from the technology; therefore, specific studies on institutionalization of e-procurement, for instance this present work is very necessary. Further research with larger sample need to be conducted to validate additionally the model and instrument proposed.

Key-Words: e-procurement; initial adoption; institutionalization; construction industry; developing countries

1 Introduction

Empirical studies consistently demonstrate that e-procurement makes potentially significant benefits to construction enterprises [1]. However, in both developing and developed countries, the diffusion and adoption of e-procurement in construction sector has fallen far below expectations. Most construction companies adopt the technology only at the simple but not integrated level [2].

The evolution of the strategic role of a specific e-commerce technology (e.g. e-procurement) is closely linked to its sophistication or integration. Literature consistently demonstrates that the sophistication of an innovation (e.g. IT systems, advanced manufacturing systems) significantly and directly affects the operational performance, the business performance, and the service performance of enterprises [3-5]. In addition, empirical evidence also indicates that the assimilation of e-procurement innovations (i.e. e-reverse auction, e-catalog, e-payment and settlement) considerably improves procurement productivity [6]. It can be said that in

order to gain full benefits and maximize potential advantages from e-commerce technologies, a firm or an organization must first accept, adopt, use and then institutionalize fully these technologies in terms of technology, information, management and usage. In light of this, studying the factors that speed up firms move on from an initial adoption to institutionalization of e-procurement is an important consideration for an understanding of the adoption and improving success of e-procurement.

In fact, there have still been many practical problems need to be explained. For instance, despite having the same resources and operating environment, some firms have implemented more sophisticatedly e-procurement applications while others do not. Several construction 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, but they did not conduct any subsequent implementation of the technology ([7], pg.98). Furthermore, [8] and [9] agreed together that the factors that affect initial e-commerce adoption are

