Chapter 2
Assimilation of Inter-Organizational Information Systems:
Insight from Change Resistance Theory in Public Electronic Procurement

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ABSTRACT

Public electronic procurement is an Internet-based inter-organizational information system (IOIS) that is intended to facilitate government-to-business (G2B) or government-to-government (G2G) electronic communication, information exchange and transaction support through web access or value-added network. This chapter is primarily built upon theoretical work in the IOIS adoption and diffusion area, and in particular on theories of technology assimilation. Stages of the assimilation process and the aggregation strategy have been explained in the context of public electronic procurement. Resistance theory is also discussed. We have argued that understanding both resistance variables and relevant change management interventions or moderators can be very useful in determining the extent of public e-procurement assimilation.

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INTRODUCTION AND BACKGROUND

An Inter-organizational Information System (IOIS) is an infrastructure of computers and communication crossing organization boundaries and permitting information sharing (Cash and Konsynski, 1985). A more straightforward definition was provided by Hyde (2002) who defined inter-organizational systems as information and communication technology-based systems that are shared by two or more organizations for performing revenue-generating transactions. The Internet, as an enabler of organizational collaboration, can be regarded as the ultimate inter-organizational system (Hyde, 2002). The Internet is an extremely important technology for IOIS and provides better opportunities for organizations to establish distinctive strategic positions than older generations of IT (Porter, 2001). Along with Porter, McGhee (2003) and more recently Waldman (2010) have also observed that the internet offers significant economies of scale and scope for organizations based on low cost access to global markets and disintermediation of suppliers across the e-value chain.

The conceptual background underlying our research draws upon theories of technology assimilation (Tornatzky and Klein 1982, Mayer and Goes, 1988; Cooper and Zmud 1990; Fichman and Kemerer 1997). Mayer and Goes (1988) define technology assimilation as an organizational process that (1) commences when individuals within an organization first become aware of a new innovation, (2) which can then lead to the organization acquiring the innovation, and (3) if suitable, the technology may then be fully accepted, utilized, and institutionlized. Starting from this conceptual position, Purvis et al. (2001) further defined assimilation as the extent to which the use of a technology diffuses across organisational projects and work processes, and becomes routinised in the activities of those projects and processes.

It is important to note that Theories of Technology Assimilation distinguish assimilation from the concept of adoption. Adoption is a dichotomous variable and indicates whether the organisation has reached a decision of whether to utilise an IOIS or not, whereas assimilation is the extent of collective outcomes of activities by individuals and departments within the organization. Also while there has been much research undertaken on the issues of technology adoption, very little empirical work has been done on assimilation issues

This chapter is primarily built upon theoretical work in the IOIS diffusion area, particularly the theories of technology assimilation, in the context of public electronic procurement (e-procurement). Public e-procurement is an Internet-based inter-organizational information system that is intended to facilitate government-to-business (G2B) or government-to-government (G2G) electronic communication, information exchange and transaction support through a web access or value-added network. The existing literature on IOIS, particularly, electronic commerce innovation has contributed significantly to our understanding of e-procurement assimilation. However, this literaturehas limited applicability for investigating the extent of organizational e-procurement assimilation in the public sector. Web based procurement is relatively new, and the transactional characteristics of the Internet differ significantly from other technologies such as EDI (Electronic Document Interchange) examined in prior literature (Subramaniam and Shaw, 2002)

There has been an increase in popularity of e-procurement systems in governments in advanced and emerging economies alike. Consequently, governments around the world are implementing e-procurement initiatives as part of their Electronic Government (e-Government) agendas. During the last decade the implementation of e-procurement has shown explosive growth in some organizations while others seem to have resisted its assimilation (Vaidya and Hyde, 2011). These paradoxical results raise questions about the likely success of e-procurement systems being implemented by various government agencies (Vaidya, Sajeev,