

Chapter XVII

Organizational Motivation and Interorganizational Systems Adoption Process: Empirical Evaluation in the Australian Automotive Industry

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ABSTRACT

Interorganizational systems (IOS) play a critical role in today's e-commerce environment. These systems are introduced by different organizations following different adoption processes. Existing literature on IOS adoption, however, does not explain the variations in the IOS adoption processes initiated by different organizations. A theory of IOS adoption known as IOS Motivation Model (IMM) has recently been developed by the authors that explains the differences in IOS adoption processes in terms of differences in organizations' adoption motivations for any given IOS project. This chapter reports an application of the model in the Australian automotive industry. The findings provide support for the model and are useful for IT managers.

INTRODUCTION

IOS are important applications that support key boundary-spanning activities of many organizations (Saeed, Malhorta, & Grover, 2005). These systems play a critical role in today's e-commerce environment (Han, Kauffman, & Nault, 2004; Subramaniam & Shaw, 2004) because they provide significant business benefits to supply chain partners (Garfield, Kamis, & LeRouge, 2004). However, IOS benefits are likely to be experienced when these systems are carefully introduced by following appropriate adoption processes (Rahim, 2004; Rahim, Shanks, & Johnston, 2002). Regrettably, little is reported in the existing IOS adoption literature about how organizations determine IOS adoption processes. An exception is the work of Rahim, Shanks, & Johnston (2001a) that has recently developed IMM. The IMM relates IOS adoption processes to the organizational motivations for IOS adoption, classifies organizations into four generic motivation scenarios, and predicts different adoption processes to be initiated by organizations representing different motivation scenarios. The model was tested in the Australian pharmaceutical industry where it received considerable support (Rahim, Shanks, & Johnston, 2001b; Rahim et al., 2002); the model thus requires further validation in other industry contexts in order to evaluate its usefulness across industry segments. To address this, the IMM is applied in this article to examine electronic data interchange (EDI) adoption processes in the context of the Australian automotive industry.

Two organizations that are members (i.e., automotive assembler company and a first-tier automotive parts supplier) of an automotive assembling supply chain were thus chosen for case study in this research project. They have both experienced two distinct stages of EDI adoption. For the automotive assembler company, the first stage of IOS adoption was initiated with the introduction of a traditional EDI system, and the second stage focused on the adoption of an Internet-based EDI

system. Similarly, in the first stage the supplier company introduced a stand-alone EDI system to communicate with the automotive assembly company; and at a latter stage the company adopted a fully integrated EDI system with its own suppliers (i.e., tier two suppliers) and as well as the automotive assembly company. Interestingly, the motivation for EDI adoption did not change between the two implementation episodes for the automotive assembler company, but did so for the automotive parts supplier. Thus the IMM predicts that the IOS adoption processes initiated by the manufacturing assembler company should be similar in nature at both stages; and by contrast, the IOS adoption processes undertaken by the automotive parts supplier should differ in specific ways between adoption episodes. Empirical evidence from the two cases suggests that the similarities/differences in the IOS adoption processes between the two stages of each company can be explained in terms of the corresponding similarities/differences in its motivations for EDI adoption. This finding provides support for the proposition that an organization that demonstrates different motivation for adopting an IOS solution at two different time periods will initiate dissimilar adoption processes and that the particular circumstances within which the motivation is formed do not affect significantly the adoption processes initiated. Thus, this study contributes to the literature by confirming the explanatory power of IMM and also demonstrating the applicability of IMM to an industry setting other than the one for which it was initially developed.

This article is organized as follows. First, past approaches to IOS adoption are critically reviewed and their limitations are pinpointed. Second, the IMM is briefly described and its relation to past research is explained. Third, the research approach is narrated. Empirical evidence is then produced to classify the motivations observed in each EDI stage and actions initiated by the case companies to introduce EDI in each stage. Next, the case study findings are discussed. Finally, the

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