

# Chapter 17

## Inter-Organizational Information Systems and Business Management: A Research Framework and an Overview of Key Theories

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### **ABSTRACT**

*While some organizations have benefited significantly by effectively using inter-organizational information systems (IOIS), other organizations with IOIS deployment have struggled to gain expected business value of IOIS, and yet other trading partners have resisted the participation in IOIS. This paper asserts that academic theories provide means to form meaningful conclusions to understand the underlying causes of these phenomena. Against this background, this chapter presents a research framework to study IOIS and business management related issues. It identifies the key constructs and variables for each research domain of the framework. A brief description of over 30 theories has been provided and the entities named in the theory are expected to predict the outcome of the theory-governed occurrences. An attempt has been made to link each domain of the IOIS and business management framework to key relevant theories. It is expected that understanding of various antecedents that influence IOIS and its impact on inter-organizational processes and organizational effectiveness in light of these theories can help organize and guide academic research efforts as well as offer insights to research practitioners on IOIS and business management.*

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## **1. INTRODUCTION AND BACKGROUND**

This decade has seen fundamental changes in the way organizations manage business. In today's networked business environment, the focus of business management is shifting from individual organizations to inter-organizations, and consequently from managing traditional information systems (IS) to managing inter-organisational information systems (IOIS). Obviously, managing IOIS and business in inter-organizational environment has introduced more significant opportunities and challenges than managing IS in individual organizational environment and is certainly worth of further study. One of the most important challenges is how to best utilize IOIS to support inter-organisational governance, relationships, and business processes and practices in order to achieve business goals of the organization.

Effective use and assimilation of IOIS enables organizations to transform their processes and build capabilities. Various antecedents including cooperation, collaboration, integration and flexibility are needed to support inter-organizational relations and business processes. IOIS can enhance this, which in turn, can help improve the organizational performance. While there are many operational and strategic benefits that can be achieved from using IOIS, challenges are that IOIS can also alter the balance of power between trading partners and other change management requirements may need to be addressed. Obviously, in today's inter-organizational business environment, understanding the most important antecedents influencing the use and assimilation of IOIS and its impact on inter-organizational business process is more important than ever.

In fact, the deployment of IOIS has experienced explosive growth in some organizations while other trading partners have resisted its participation and assimilation (Vaidya & Hyde, 2011). Similarly, while some organizations have benefited significantly by effectively deploying

IOIS, other organizations with IOIS deployment have struggled to gain much benefits (Saeed et al., 2011). Besides, IOIS are expensive undertakings and the level of investment is significant for most organizations. Despite the potential benefits, organizations differ in the level with which they assimilate IOIS and in the level with which they realize improvement in business performance. New trading partners, especially, are struggling to make sense of how to use IOIS.

This has raised several questions that deserve answering in relation to the use/assimilation of IOIS and its impact on business performance. What are the antecedents that could lead towards the successful assimilation of IOIS, and its impact on inter-organizational governance, processes and practices, and the resulting organizational effectiveness? Which theory or a combination of theories can best explain them? How can business managers influence and manage IOIS and business management in light of these theories? Without a solid understanding of antecedents that influence the use and assimilation of IOIS and its impact on business performance, organizations involved are at a disadvantage in knowing how best to use IOIS so that they will provide operational and strategic benefits to their owners.

### **1.1 What is an IOIS?**

Rose (1999) describes an information system (IS) in structural terms as a social system (information practice), supported by material resources (information technologies), which are designed and managed by a further social system. IS literature uses various terms including inter-organizational information sharing system, inter-organizational system, and net-worked based information system to refer to inter-organizational information system (IOIS).

While most definitions use similar approach to IOIS as an automated information systems shared by two or more companies as defined by Cash and Konsynski (1986), the most recent definition by

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