

## Chapter 5

# The Research Model

### ABSTRACT

*The purpose of this chapter is to draw upon the findings from previous literature review on e-business diffusion and collaboration, together with the theories of Trust and organizational capacities. The related theories are DOI theory and Trust theory, while trust, organizational capacity, collaboration, diffusion of e-business and business performance are regarded as the five ‘constructs’ of the theoretical framework. The research theoretical framework consists of six hypotheses emerging from the interrelationships. Relationships between research question, research objectives and hypotheses are clearly established. The mediation effect of e-business diffusion between the relationship of collaboration and business performance also would be examined as the main research question.*

### INTRODUCTION

As discussed in the literature review, the **conceptual model** of this research is based on the synthesis of the two theories: Trust Theory and Diffusion of Innovation Theory (DOI). The interactions between the collaboration and business performance outcomes, as well as the links to the qualified organizational capacities and trusted inter-organizational relationships and e-business innovation are analyzed.

This chapter is organized into five sections. Section 1 and section 2 introduce the **factors** of trust and organizational capacities as well as the justification for their being included in the integrated **framework**, their structural relationship with their downstream influencing factors (collaboration and e-business diffusion) and the associated research **hypotheses**. Section 3 displays the relationship of downstream

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influencing factors' – collaboration and e-business diffusion – and their relationships with business performance. Section 4 presents the complete proposed **research model** in a diagram. Based on the analysis from the literature and theories, the research model begins with an analysis of trust and organizational capacities, and then proceeds on the mediating variable (e-business diffusion) between collaboration and business performance.

Six variables are prominent in the collaboration literature and six hypotheses are tested with respect to this model. The arrows in Figure 2 indicate the hypothesized relationships. The focus of the conceptual model is on the role of collaboration in the performance of inter-organizational relationships. Specifically, the model evaluates: (1) the impact of two antecedents (trust and organizational capacities) on collaboration, (2) the impact of collaboration on overall business performance, and (3) the mediating effect from e-business diffusion. The hypothesized relationships derived from the conceptual model are discussed below.

## **TRUST AND COLLABORATION: FACTORS AND HYPOTHESIS**

In addition to the importance attached to adoption of the nonstop technological innovation of new technology, behaviors subsequent to adoption are worth discussing as well (Loa & Lieb, 2008). Proliferating e-business technologies support human interaction behaviors via various e-technologies with high information richness, especially for organizations in a long-distance business collaborative situation. While DOI deals with the process in collaboration, trust is regarded as a fundamental communication pattern of an innovative organization engaged in collaboration, joint venture, strategic alliances and any other inter-organizational networks (Sako, 1998; Yacine, 2002).

In the circumstance of globalization, as Triston (1992) stated, in the digital economy, the critical challenge for any organization is to create a climate in which innovation is encouraged. One essential element for building information sharing in collaboration is heavily dependent on whether the trust can be ultimately extended to trade partners (Ik-Whan & Taewon, 2005; Tse & Soufani, 2003). Ryssel, Ritter and Gemunden (2004) demonstrated that information technology is an enabler but alone cannot guarantee the creation of additional value. Trust is an essential ingredient which leads to a longer-term perspective, and ultimately greater value is built in the relationship.

Although the end users of e-business technologies have to interact with complex systems in performing complicated tasks of work, unfortunately, the higher level of difficulty in accomplishing multiple collaboration tasks creates high attention to human behavior and dependence, which is directly affected by trust (Rice & Geels,

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