

# Chapter 6

## The Impacts of Electronic Collaboration and Information Exploitation Capability on Firm Performance: Focusing on Suppliers Using Buyer-Dominated Inter-Organizational Information Systems

**Ilsang Ko**

*Chonnam National University, Korea*

**Lorne Olfman**

*Claremont Graduate University, USA*

**Sujeong Choi**

*Chonnam National University, Korea*

### ABSTRACT

*We assessed the effects of electronic collaboration using inter-organizational information systems (IOIS) on firm performance, particularly between dominant buyers and their suppliers. From the suppliers' perspective, we examined ways in which higher levels of performance can be achieved by increasing the extent that they proactively participate in business activities using IOIS. We defined electronic collaboration as consisting of two major activities: electronic information sharing (EIS) and electronic cooperation (ECo). We also evaluated the extent of EIS and ECo that suppliers contribute to their development of an information exploitation capability (IEC). This capability enables them to utilize internally both information and knowledge created from electronic collaboration. In addition, we assessed the effects of electronic collaboration activities and IEC on a firm performance. We collected surveys from 169 firms, and conducted a Structural Equation Model analysis. We also empirically tested the research model*

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*and five hypotheses. The results of the statistical analysis indicated that electronic information sharing exerts a clear effect on electronic cooperation. We determined that EIS and ECo are major sources for the development of IEC and that both ECo and IEC result in improved company performance. Both electronic information sharing and electronic cooperation substantially foster an information exploitation capability. We also determined that the information exploitation capability has a partial mediating effect between electronic information sharing and electronic cooperation on firm performance.*

## **PROLOGUE: E-COLLABORATION AND INFORMATION RESOURCE CAPACITY IN CROSS-ORGANIZATIONAL BOUNDARIES**

### **The Definition of E-Collaboration**

The term “E-Collaboration” is defined as “Collaboration among individuals engaged in a common task using electronic technologies” (Kock et. al. 2001). E-collaboration is now an essential activity for firms doing business with partners, regardless of the industry in which the firm is engaged. Inter-organizational e-collaboration as a dynamic concept involves doing tasks together and making decisions in cooperation with business partners. Information sharing and resource sharing, as static concepts, refer to a state of e-collaboration and play a fundamental role in creating value for companies. From the viewpoint of the individual, e-collaboration is an effective method for gathering ideas from others and sharing creativeness globally through the Internet, circumventing the limitations of time and space. As an example, Inno-Centive has found a way to post its problems on the Internet and seek solutions from a distributed global network of specialists (Tapscott & Williams, 2008). E-collaboration can also make companies to encourage their managers always innovative in performing their tasks at all levels (Hamel & Breen, 2007).

### **Electronic Collaboration across Companies and their Information Exploitation Capability on Firm Performance: Four Streams of Studies on the Mediators Facilitating E-Collaboration**

Recent trends in research regarding firm’s e-collaboration protocols have largely involved empowering the firm’s IT capabilities in efforts to enhance a firm’s ability to carry out internal and external business processes. More specifically, one study, we will discuss later, has focused on the mediating effect of information exploitation capability on firm performance, and the other focused on firm’s information orientation and its impacts on firm performance (Lee, Ko & Jeong 2009). A firm’s information orientation consists of three sub-constructs, such as information technology practices, information management practices, and information behaviors and values. Another study has focused on the social capital perspective of e-collaboration, in which a firm’s efforts toward e-collaboration, in the long run, specifically in the forms of the relational intensity of partners, shared language, and trust, contribute to improvements in operational and strategic performance (Jeong, Ko, Lee & Jang, 2009). We can extract meaningful constructs from these recent studies, allowing us to elucidate e-collaboration within a cross-organizational context, which includes information sharing, electronic cooperation, information exploitation capability, information orientation, and social capital. These artifacts have surely helped us to understand the mechanisms

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