Evaluating the Influence of E-SCM on Business Integrity in SMEs

Hany Abdelghaffar, German University in Cairo, New Cairo, Egypt
Nada Hassan, German University in Cairo, New Cairo, Egypt

ABSTRACT

Due to the extensive competition in today’s markets and the rapid development of new products and services, many companies started to invest on implementing supply chain management system. The rapid development of the internet had helped companies to establish their electronic supply chain system with suppliers in order to enhance the business functions. This paper investigates how e-supply chain management system enhances the business integrity at SMEs. To achieve this, a conceptual model was introduced and tested via a case study. Findings showed that implementing e-SCM helps SMEs to increase business integrity which leads to enhancing the efficiency and flexibility of the procurement process.

Keywords: Business Integrity, Developing Countries, Egypt, Small and Medium Enterprises (SMEs), e-Supply Chain Management (e-SCM)

1. INTRODUCTION

Since the 1990s, many large organizations collaborated with their suppliers to improve their purchasing process. Accordingly, different business functions being conducted separately were integrated via the internet which is known as e-supply chain management (e-SCM) (Tan, 2001). As reported by Auramo et al. (2005), Cisco Corporation, for example, had saved 500 million dollars by integrating its business processes using a web-based tool. Moreover, the use of IT in the supply chain had helped Dell to improve its delivery processes and reach the customer expectations (Auramo et al., 2005; Chen & Anastasia, 2008).

Similar to large organizations, small and medium enterprises (SMEs) found themselves in a position where they have to respond quickly and easily to the market changes. Therefore, they began to emphasize on their supply chain processes by using information technology to meet the industry requirements (Chen & Anastasia, 2008). Appropriate usage of supply chain management system in SMEs can easily and effectively coordinate and connect the manufactures, the suppliers and the customers inside the enterprise (Hsin et al., 2008).

DOI: 10.4018/ijeis.2013100101
Several studies have focused on how to make the best use of internet technology in businesses and how to improve the supply chain using the information technology to collaborate between different businesses for large organizations (Frholich, 2002; Leon-Pena, 2008; Simatunpang et al., 2002). However, there is still little research done on the impact of e-supply chain management on business integrity for SMEs. SMEs need e-SCM to reach integrity internally for different business processes and externally with the suppliers and customers. Accordingly, this research attempts to address the impact of e-supply chain management on enhancing business integration in SMEs which would help to reach an answer to the following question: how e-supply chain management system enhances business integrity in SMEs?

The paper structure starts with reviewing the literature about e-supply chain management integration tools and models. This is followed by explaining the methodology used and describing the case study of the selected company. Eventually, the discussion section describes how e-SCM enhances business integrity.

2. LITERATURE REVIEW

2.1 E-SCM E-Integration in SMEs

The e-supply chain management (e-SCM) is defined as “the effect of the internet on the supply chain role of planning, implementing and monitoring the flow of goods, services and information from the point of origin to the point of consumption to fulfill the customer demands” (Gimenez & Lourenco, 2004). SMEs are seeking to enhance the integration process through applying e-supply chain in order to improve their performance, reduce the cost expenses and increase the reliability and the service quality levels. The use of the internet in the SCM supports SMEs in breaking the geographical boundaries between companies and enables easy accessing of information (Hsin et al., 2008; Rajendran, & Elangovan, 2012). Moreover, the e-supply chain had increased the efficiency in distribution as it organizes the mode of distribution. It also automates the process of setting the schedules of picking up and arrivals of the products to consumers on time (Kumaran & Ganesan, 2011).

The integration of the organization business functions has a huge challenge for companies generally and for SMEs specifically. Security and privacy are considered of the major challenges facing e-SCM as sharing information and data with other companies or suppliers can be unsecured (Leon-Pena, 2008) which could reduce the confidentiality of the shared information (Lancaster et al., 2006). Moreover, the implementation of e-supply chain, in some cases, might be of high cost as a result of purchasing equipments, implementation, maintenance and staff training that prevent several SMEs from implementing e-SCM (Pant et al., 2003).

There are different electronic integration alternatives that can support SMEs to ensure business process integrity such as enterprise application integration (EAI), electronic data interchange (EDI) (Mclaren et al., 2002), radio frequency identification (RFID) (Chu et al., 2008) and (Enterprise Resource Planning) (ERP) (Abdelghaffar, 2012; Ketikidis et al., 2008). A comparison between the expected advantages and disadvantages of each one are presented in Table 1. When considering the advantages and disadvantages for each system, SMEs can have a clear view of which system best fit their requirements and resources (Pathak, & Vidyarthi, 2011).

RFID is not the right solution for SMEs as its tags are expensive. Moreover, the privacy and security concerns are the biggest threats of using RFID (Chu et al., 2008; Michael & McCathei, 2005). EAI is considered to be very complicated to be applied in small-sized companies and needs many efforts to reengineer the business processes (Huang & Cai, 2005).

On the other hand, the ERP supports the fundamental processes to integrate the supply chain which increases the overall productivity. Its main role is supporting the logistics operations within the supply chain. ERP systems can be expensive for large organizations as for
Measuring the Impact of an ERP Project at SMEs: A Framework and Empirical Investigation


www.igi-global.com/article/measuring-impact-erp-project-smes/37197?camid=4v1a