

Chapter 65

Exploring the Impact of Globalization and Technology on Supply Chain Management: A Case of International E-Commerce Business

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ABSTRACT

This article reports on results of a research aimed at understanding the relation between globalization and technology and what impact this relation has brought to the modern global supply chain. The research focuses on the e-business/e-commerce, a new but fast growing concept as a supply chain operation model, to compare and discuss the differences of related aspects to global supply chain management versus similar practices a decade earlier. An online questionnaire was used to collect data and the participants were all supply chain experts working for the same global logistics and transportation company. Participants' perceptions were collected about their online experience and how they have experienced the change in supply chain management as a result. The research revealed that there is a relationship between globalization, technology use, and the impact of these two elements on the evolution of the global supply chain in the e-business industry. Also, the 'digitalization' is leading the global supply chain operations to a new operation platform. There were two main limitations in this study; a) relatively small sample size, and b) the majority of participants had a logistics background and this may have impacted their reported perceptions.

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INTRODUCTION

Globalization is described by the European Commission as a phenomenon that different countries' markets and productions are significantly interdependent due to dynamics in trades; and the fast-developing technology has cleared the geographical barriers (Wahab, 2004). Globalization and technology are argued to be the forces driving the management change in supply chain (Johnson, 2006), and it has created a new economy environment (Totonchi & Manshady, 2012). The globalization and technology are complementary to each other and interactively deciding each other's destination and together drive the direction of global supply chains. Now, the emerging of a new business model - e-business/e-commerce, which is a description of a wide range of online activities for products and activities, is an outstanding product as a result from these two major social economic trends (Rosen, 2000, cited by Totonchi & Manshady, 2012). Perfect competition in today's global markets and the heightened expectations of customers bounded business enterprises to explore the factors affecting supply chain performance (Singh, Sandhu, Metri & Ghera, 2014).

Though from the economic perspective that e-business/e-commerce has become one of the fastest growing sectors, the globalization and technology has brought the operations of supply chain into a new era and the consensus customers' acceptance of online shopping is not concluded (Ashraf, Narongsak & Seigyoung, 2014). Additionally, the pace of technology development is so fast that it is possible every half a year there might be something new appears and available in the market. Therefore, it is difficult to anticipate how the e-business/e-commerce as the most favor of the global supply chain model will trend. The authors aim to hold a critical position to understand how globalization and technology as two key drivers impact the e-business/e-commerce.

Just as the same as the industrial revolution and the expansion of the West in the 19th century which have led to a brand new path in the development of human society, globalization outlines the contemporary patterns and yet brings the social activities to another new era. Political, economic and technological changes are the three main leading elements that are interrelated with globalization and lead to a new transformation of the Supply Chain Management Model (SCM) (Held et al., 1999). Typically, technology is identified as one of the key competitive advantages in SCM. In addition to that, technology contributes a significant level of value in distinguishing a modern supply chain from a traditional supply chain (Ketchen et al. 2008, cited by Marinagi, Trivellas & Sakas, 2014). The evolution of Information Communication Technology (ICT) is the key element that triggers the supply chain integration (Marinagi et al., 2014). The three forms of integration, i.e., internal, supplier, and customer integration have emerged as important elements of the supply chain (Maiga, 2016). The Internet and its impact is an outstanding example. The use of the Internet has significantly increased in the past two decades (Ashraf et al., 2014). As the high penetration of the Internet is dramatically influencing the consumer's behavior, so as the demand pattern; a new concept as applying the 'digitization' in operations is introduced to the SCM.

Since the introduction of 'digitization' has a tremendous influence on all aspects of the SCM and the operations models (Raab & Griffin-Cryan, 2011), research subjects related to the changes in global supply chain operations and management have been broadly conducted and still are the on-going hot topics. With escalated expectations of a firm's performance and the emergence of globally dispersed supply chain networks, companies are presented with increased levels of complexity in the management of their supply chains (Lee, McKone-Sweet & Ryu, 2013). The purpose of this section is to review the current discussions on the impact of globalization and technology to the global SCM.

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