

Empirical Investigation of the Supply Chain Performance: Does Supply Chain Integration make a difference?

Submitted By: Arsalan Mahmood

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Supervisor: Dr. Sarwar Azhar

Co-Supervisor: Mr. Asher Ramish

School of Business & Economics, University of Management & Technology, Lahore

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Abstract

The aim of this study is to empirically investigate the factors of supply chain integration (supplier, internal or customer) on certain supply chain performance measures (Flexibility, Resource and Output). Data collected from 74 respondents in Pakistan for analyzing the relationship between the study variables. The survey was administered to individuals identified from a list of Lahore Stock exchange (LSE). The findings identified through regression analysis were mixed results. Results indicates that companies link their business processes, SOP's and KPI's with the other departments and share data with them on the basis of feedback from the customer that enhances the capabilities of forecasting and product delivery that ultimately increases flexibility performance whereas companies are not utilizing their key suppliers as a source of competitive advantage to better utilization of their resources. Furthermore, customer integration results in the supply chain due to involvement of high cost factor that decreases the output performance in the supply chain. The findings of the study have certain limitations that large sample size is required to further confirm the relationship between supply chain integration and supply chain performance. The approach used in this study is cross –sectional approach, as the future researchers can also use longitudinal approach to further validate the relationship. This study presented constructs of Supply chain integration factors affecting Supply chain performance. In the addition, this study assumes to be the initial study in Pakistan that helps practitioners and researchers in the field of supply chain and also increases the awareness of integration in the supply chain to gain competitive advantage.

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1. Introduction

1.1 Background

Today when business operations are globalizing and businesses are in continuous process of evolution, adopting new techniques has become significant sources of creating a competitive advantage (Anderson & Katz, 1998; Awad & Nassar, 2010; Bagchi, et al., 2005; Kim, 2006; Li, et al., 2006; Wu, et al., 2004). Cost effectiveness (Awad & Nassar, 2010; Christopher & Gattorna, 2005; Smart, 2008), increased reliability (Carter & Easton, 2011; Peck, 2006), superior customer service (Bhagwat & Sharma, 2007; Smart, 2008) and higher supplier cost (Carter & Rogers, 2008) are few but major challenges that organizations face while developing their supply chains. This brings into picture the phenomenon of supply chain management considered to be the new approach for the survival of businesses in the 21st century (Carter & Rogers, 2008; Kim, 2006; Wu, et al., 2004).

Supply chain management integrates the whole process or activities (suppliers, manufacturers and customers) into consideration and creates value for the customers (Zailani & Rajagopal, 2005). Näslund & Hulthen, (2012) on the other side explains that SCM integration is the coordination and management of the upstream and downstream members that hold product, services, financial and information flows of the core business processes with the manufacturers. However, the importance of integration is defined as “effective *integration of suppliers into product value/ supply chain will be a key factor for some manufacturers in achieving the improvements necessary to remain competitive*” (Ragatz, et al., 1997, p. 191). Number of successful organizations link their internal processes/systems to external suppliers and customers in unique supply chains (Frohlich & Westbrook, 2001; Zailani & Rajagopal, 2005). Thus, growing evidence suggests that higher the level of integration with suppliers and customers in

the supply chain, the greater the potential benefits (Frohlich & Westbrook, 2001). Moreover, the conventional wisdom in most supply chain management literature is that higher level integration in the supply chain positively affects the performance of the supply chain. (Anderson & Katz, 1998; Bagchi, et al., 2005; Devaraj, et al., 2007; Flynn, et al., 2010; Frohlich & Westbrook, 2001; Hines, et al., 1998; Johnson, 1999; Lee, et al., 2007; Lee, et al., 1997). Key business strategies of an organization are to develop a well integrated supply chain which influences or improves supply chain performance (Lee, et al., 2007; Zailani & Rajagopal, 2005).

1.2 Research Gap

The above references from the literature evidently show that supply chain integration has a significant connection with the overall performance of the supply chain. Numbers of studies have been conducted on supply chain integration and organization performance (Fabbe-Costes & Jahre, 2007,2008; Flynn, et al., 2010; Frohlich & Westbrook, 2001; Kim, 2006; Kim, 2009; Richey Jr, et al., 2009; Zailani & Rajagopal, 2005) but not many have focused on supply chain performance. Researchers tend to study supply chain integration with other factors like supply chain design (Sezen, 2008); arcs of integration (Frohlich & Westbrook, 2001); competition capabilities (Kim, 2006); process approach to supply chain integration (Trkman, et al., 2007); supply chain integration using a maturity scale (Aryee, et al., 2008) but have paid lesser attention to its effect on supply chain performance. Authors have written a lot on the topic of supply chain performance independently and have proposed different frameworks for measuring supply chain performance but unfortunately, most scales have a limited scope and do not cover all the dimensions of the performance of the supply chain. Beamon,(1999) suggested a supply chain performance measure that covers all dimensions including flexibility, resource and output performance. Hence, there is a lack of empirical study that analyses supply chain integration and

studies its impact on supply chain performance as defined by flexibility, resource and output performance.

1.3 Objective of the study and research questions

Based on the above discussion, the objective of the study is to empirically determine the impact of supply chain integration factors on supply chain performance measures as defined by flexibility, output and resource. Furthermore, this study is the first of its kind in Pakistan as per the knowledge of the author and aims to help organizations to implement supply chain integration in their organization with the reasoned logic that will lead to competitive advantage and performance.

In the line with the objective of the thesis, these are the following research questions.

RQ: What is the impact of supply chain integration on supply chain performance?

RQ1: What is the impact of supply chain integration as defined by supplier, internal and customer integration on supply chain flexibility performance?

RQ2: What is the impact of supply chain integration as defined by supplier, internal and customer on supply chain resource performance?

RQ3: What is the impact of supply chain integration as defined by supplier, internal and customer on supply chain output performance?

The thesis is organized in the following manner. The next section (Chapter 2) presents a detailed literature review on supply chain integration and supply chain performance. Hypotheses are also discussed at the end of this section. Chapter 3 explains the research methodology used to collect data for this research. Data Analysis discusses the results of this study in which correlation and

regression analysis are presented in Chapter 4. Discussion of these results is briefly discussed in Chapter 5. Finally, the last Chapter presents the conclusion, limitations, and managerial implications of this study and future research that help practitioners and research in the field of supply chain management.