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Supply Chain Integration and Firm's Performance: A Review of the Evidence

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Abstract

Impressive performance of the respective firms is essential for the success, growth and development of any sector or industry. But in this acutely competitive global market of the present day the respective firms often struggle with ineffective supply chain in respect of internal, supplier and customer integration. To overcome such barriers integration of all the linkages through cross-functional teams, collaborative relationship with customers and suppliers, good public infrastructures and logistics, planned inventory and scheduling, automation, timely delivery, cost competitiveness and closely working with their supply chain partners, etc., can be justified approach for the firms to improve their organizational performance. So, supply chain integration (SCI) is not just regarded as a mere collaboration or coordination between or among supply chain partners instead it plays important role in enhancing firm's performance through effective supply

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chain management practices. This study, therefore stems from the growing significance, endeavors to find out the effect of supply chain integration on firm's performance from the light of prominent research studies.

Keywords: Supply chain integration, internal integration, supplier integration, customer integration, firm's performance.

1. Introduction

Findings of numerous research studies in respect of operational and financial perspectives of firm's efficient performance are (Chang et al, 2003; Rosenzweig et al, 2003; Gunasekaran, 2004; Hervani et al., 2005; Martínez et al, 2005; Devaraj et al, 2007; Neely, 2007; Flynn et al, 2010; Wong et al., 2011; Zhao et al., 2011; Huo, 2012; Prajogo, & Olhager, 2012; Mellat-Parast & Spillan, 2014; Xu et al., 2014) worthy to follow. Some studies suggested proper scheduling, timely delivery (Chakraborty & Sharma, 2007), cost competitiveness and closely working with their supply chain partners (Kumar & Liu, 2005; Gunasekaran & Ngai, 2005; Sarkis et al, 2007); committed retailing behavior on the part of large retailers (Abernathy et al., 2005), etc., as solution to their high performance. It is beacuse the higher the supply chain integration, the higher the performance of an organization (Ou et al, 2010; Wiengarten, et al, 2010).

Research Problem: In the studies by Das et al (2006), Stank et al (2001) and Flynn et al. (2010) investigated the effects of supply chain integration on performance and concluded that there is not necessarily a positive relationship, especially on operational performance. Iyer et al. (2009) showed that the effect of supply chain integration on firm's performance decreased as product turbulence and demand unpredictability jointly increased. So, there is need to focus on firm's performance through supply chain integration. According to mixed types of findings, it is necessary to examine the effect of supply chain integration on firms' performance.

Research Gap: Some studies found positive correlation between supply chain integration and optimum performance (Graham et al. 2005; Wook Kim 2006; Kim 2009), while many previous researches also appear to have been inconsistent or even conflicting with one another about their findings (Devaraj et al. 2007; Gimenez et al. 2012; Sousa et al. 2012) due to limited number of indicators and operational measures (Fabbe-Costes & Jahre, 2008), general focus on the impact of supply chain measurement practices on competitive advantage and firms' performance rather than specific focus on the business performance (Li et al, 2006); lack of use of analytical model (Flynn et al. 2010; Turkulainen and Ketokivi 2012). Moreover, there is paucity of industry wide organizational performance as most studies are firm's performance centric. Thus, no study sufficiently covers the whole nation. So, it is evident that there is a research gap.

Research Objective: From the light of the above, the principal objective of the study is to identify whether the effect of supply chain integration improves on firm's performance or not.

2. Literature Review

2.1 Supply Chain Integration

Supply chain integration is characterized as the procedure of collaboration inside supply chain players that oversee inter and intra-organization activities to accomplish efficient flow of products, services and information to provide most extreme value to the customer in the right place at a reasonable cost (Rosenzweig et al., 2003; Bagchi et al., 2005; Zelbst et al., 2009; Flynn et al., 2010). Supply chain integration takes place between three or more entities which are involved in the value adding processes required to achieve efficient and effective flow of products, services, finances, decisions and information from the source to customer while providing maximum value at low cost and high speed (Zhao et al., 2008; Flynn et al., 2010). Zailani and Rajagopal (2005) presented a model of an integrated business process, which highlights the importance of communication between processes and between partners in the supply chain. Supply chain integration requires both internal integration and external integration.

Internal integration is the ability of an organization to organize its strategies, practices and processes into collaborative, synchronized processes, in order to interact efficiently with its suppliers and fulfill customer requirements (Flynn et al., 2010; Gimenez & Ventura, 2005; Koufteros et al, 2005; Wong et al., 2011). While **external integration** is the degree to which a manufacturer partners with its external partners to structure inter-organizational strategies, practices and processes into collaborative and synchronized processes (Flynn et al., 2010). External integration comprises of i) supplier integration and ii) customer integration (Wong et al., 2011). **Supplier integration** is the ability of an organization to develop close or joint collaboration with its suppliers so as to better manage interfirm business processes (Frolich & Westbrook, 2001; Koufteros et al, 2005; Das et al.,2006; Devaraj et al., 2007; Flynn et al., 2010; Wong et al., 2011). Supplier integration has been found to be related to new product introduction processes and product development performance (Koufteros et al. 2005; Petersen et al. 2005) and supplier development and visibility related measures (Cousins and Menguc 2006). Whereas, **customer integration** is the ability of an organization to collaborate and share information with its key customers so as to provide the organization with strategic insights on opportunities and market expectations (Wong et al., 2011) and improve the accuracy of its demand information (Frolich & Westbrook, 2001 Koufteros et al, 2005 Devaraj et al., 2007 Flynn et al., 2010 Wong et al., 2011). Customer integration has long been recognized as a pivotal factor to customer satisfaction (Won Lee et al. 2007) through which product innovation is often achieved (Song and Di Benedetto 2008; Koufteros et al. 2005).

2.2 Firm’s Performance

Firms follow many standards for measuring performance including short delivery cycles, dependable delivery promises, ability to introduce new products quickly, flexibility in adjusting product volumes, superior product quality and reliability, low investments which leads to higher return on capital and low costs (Neely, 2007). Thus, firms assess their financial and non-financial performance in terms of production cost, product quality, delivery reliability and production flexibility which when improved leads to improved firm's performance (Rosenzweig et al, 2003; Devaraj et al, 2007; Flynn et al, 2010).

3. Methodology of the Study

The current study has been endeavored through the collection of secondary data from the referred journals, conference proceedings, newspapers, websites, etc., in the respective field to identify the effect of supply chain integration improves on firm's performance or not.

4. Findings of the Study

Many researchers seem to have agreed that supply chain integration is a critical construct that has profound implication to the manufacturing firm's performance (Huo 2012; Prajogo and Olhager 2012; Turkulainen and Ketokivi 2012; Zhao et al. 2013; Huang et al. 2014; Ebrahimi 2015). Most researchers seem to have subscribed the concept that supply chain integration promotes positively the supply chain competitive strength and sustainable growth (Rai et al. 2006; Won Lee et al. 2007; Huo 2012).

Supply chain integration simultaneously improves the performance of an individual firm and the entire supply chain as well (Wong et al, 1999). Such integration helps firms to reconfigure their resources and capabilities internally and externally to consolidate their supply chain as a whole in an effort to improve long-term performance (Horvath, 2001; Huo, 2012). There is a positive relationship between supply chain integration measurements and financial and non-financial performance measurements (Wong et al., 2011; Prajogo and Olhager, 2012). A good number of other studies demonstrated that supplier integration, customer integration and internal integration influenced the competitive performance and identified with the firm's performance (Rosenzweig et al., 2003; Zhao et al., 2011; Xu et al., 2014). For example, internal integration leads to improved operational or logistics performance (Stank et al, 2001; Saeed et al. 2005; Germain and Iyer 2006). While Frohlich and Westbrook (2001) concluded that manufacturers with the widest degrees of supplier and customer integration achieve the best performance improvements in terms of market share and profitability. Through its internal and external linkages supply chain integration serves to support the tasks which contribute to improvement of operational performance including procurement, new product development, production, marketing and logistics and ensure that accurate supply and demand information is gathered (Wong et al., 2011). Vickery et al. (2003) investigated the performance implications of an integrated supply chain strategy, with customer service performance as well as financial performance as performance constructs. Their study indicated positive direct relationships between integrated information technologies and supply chain integration, supply chain integration and customer service, and customer service and performance. They also determined an indirect relationship of supply chain integration to financial performance through customer service. Droge et al. (2004) found that both internal and external integration were related to financial performance through time-based performance.

It has been argued in a number of studies that integration of supply chain with the global supply and value chain will improve a firm's performance through lowering cost, shortening lead time, providing appropriate feedback, maintaining optimum inventory levels and improving performance reliability (Krajewski et al. 2005; Won Lee et al., 2007).

5. Conclusion, Implications and Further Research

From the light of the above findings the effect of supply chain integration on the effective and efficient management of supply chain is clearly evident when the firms are well integrated with their supply chain partners, exchange accurate and timely information about customers, markets and even competitors (Seggie et al, 2006). A good number of studies also argue that the integration of supply chain has significant effect on firm's performance in respect of operational and financial aspects (Stank et al., 2001; Narasimhan and Kim, 2001; Vickery et al., 2003; Flynn et al., 2010), giving rise to responsiveness (Brewer and Speh, 2000), customer satisfaction, quality, possibility of entering international market (Chen et al., 2004), customer loyalty, return on sales and increase in profits, assets and market share (Zhang & Schmitt, 2001; Arawati, 2011).

By considering the above findings and practices, the management in various firms can adopt them in order to enhance the performance of their organizations. The study exhibited how supply chain integration creates shared value for all partners of the supply chain in terms of faster response to the rapidly changing market conditions which would lead to cost savings and customer satisfaction. Therefore, the study would be beneficial to all supply chain members from the suppliers, companies and customers who participate in one way or another in moving the products from raw materials to finished goods in terms of highlighting the benefits that they will obtain from their collaboration.

This study is unique in the manner that it investigates the relationship between firm's supply chain integration and organizational performance on the basis of the prominent research findings and make constructive and compact presentation of the relevant literature. That is, it offers to the firm's performance literature theoretical and empirical evidence as to the role of a firm's supply chain integration activities in improving organizational performance. Moreover, for the supply chain literature, this study relates a firm's supply chain integration activities to a key administration tool, the organizational performance.

According to a number of studies there is scope for further research to identify the supply chain integration drivers that can enhance firm's performance by helping the organizations in general to focus on the identified drivers to convey goods and services to the market in optimal time and at optimal cost (Kessler and Chakrabarti, 1996; Brewer and Speh, 2000; Mentzer et al, 2000; Ragatz et al., 2002; Ganeshan, 2007; Dilber & Hatice, 2008), reduce waste (Brewer and Speh, 2000), compress time, increase responsiveness (Brewer and Speh, 2000), shorten lead time, avoid over/under inventory (Krajewski et al. 2005; Won Lee et al., 2007), meet the service level requirements (Ganeshan, 2007), directly or indirectly meet the needs of customers (Chopra and

Meindl, 2010) by increasing customer satisfaction, decreasing stocks and stock costs, standardizing production and shortening the production process, increasing quality, improving in distribution, payment, order taking and delivering processes, increasing effectiveness and the possibility of entering international market (Chen et al., 2004), customer loyalty, return on sales, profits, assets and market share (Zhang & Schmitt, 2001; Arawati, 2011), ensure high quality (Min and Mentzer, 2004; Lin et al., 2005; Fynes et al., 2005a, 2005b; Daugherty et al, 2006; Thatte et al, 2013) and translate improved business performance into reality on a sustainable basis. In many instances the firm's performance erodes due to disruptions in the supply chain that reduces revenue, threatens production and distribution and cuts into an organization's market share. (Chopra and Meindl, 2010; Shah, 2009). Research may further be conducted to determine how these supply chain integration drivers can be leveraged to mitigate the potential damage to firm's performance in such instances. This research can overcome most of the limitations of the earlier studies by including the primary data from the perspectives of any particular sector or industry to link the performance of their specific supply chain integration drivers with their firms' performance.

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