

# Logistics and supply chain management: The importance of integration for business processes

Izwan Azmi<sup>a</sup>, Norlida Abdul Hamid<sup>b</sup>, Md Nasarudin Md Hussin<sup>c</sup>,  
Nik Ibtishamiah<sup>\*d</sup>

<sup>a,c</sup>Faculty of Business & Management, Universiti Teknologi MARA, Malaysia

<sup>b</sup>Arshad Ayub Graduate Business School, Universiti Teknologi MARA, Malaysia

<sup>d</sup>Center for Transportation Research, Faculty of Engineering, University of Malaya, Malaysia

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## ABSTRACT

This conceptual paper outlines the importance of integration in supply chain management (SCM) by linking the functions of logistics as it applies in strategic business process. Often, business processes are developed at the strategic level but are never identified precisely in logistics or in SCM. Strategic business processes like Customer Relationship Management (CRM), Supplier Relationship Management (SRM), Customer Service Management (CSM) and Demand Management are not directly linked to logistics or SCM. This paper identifies the literature that expressed the importance of integration and how business processes can be relevant in the execution of key logistics activities in the supply chain context.

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## 1. Introduction

Historically, the word logistic was derived from the term “logistician” which was the role of the *chef de l’ogis* who was responsible for finding accommodation for the troops during the time of Napoleon Bonaparte (Van Creveld, 2004). Logistics as an activity however, has now evolved and in the business world, logistics relates to the management of the flow of products or services from the point of origin to the point of consumption. According to Bowersox (2007), logistics is engaged in a wide range of important activities for the transfer of goods, services and related information. This is where the importance of logistics is further established in the context of supply chain management (SCM) as the flow of activities infers that an extent of integration between activities needs to exist.

Supply chain is explained by Jain et al (2010) as the management of business processes or activities associated with coordination and there are linkages in the supply chain network. The networks comprise

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\* Corresponding author. Tel.: +603-5544-4696; fax: +603-5544-4695.

E-mail address: norlida054@salam.uitm.edu.my

of multiple firms of different forms, sizes and types of products that are manufactured and distributed. The functions of these networks are to transform raw materials into finished products and to move the finished products to the end users through efficient and effective SCM. Due to today's crowded market place, efficient SCM is the focal point on building sustainable competitive edge as seen by the responsiveness of the supply chain (Aitken, Christopher & Towill, 2002).

Most companies today no longer compete simply as independent businesses but rather as supply chains. This is in line with Mentzer's et al (2001) and Esper's et al (2010) explanation of supply chains as all companies are involved in the upstream and downstream flows of products, services, finances and information. Individual businesses no longer operate in isolation and neither should their strategic orientation be wholly individualistic. Lambert (2004) emphasizes the need to have in-depth knowledge and understanding of how the supply chain network structure is configured. The three primary components of a company's network structure are:

- i. The members of the supply chain
- ii. The structural dimensions of the network
- iii. The different types of process links across supply chain

This clearly shows the importance of integration as logistics being part of the activities within supply chain will influence the overall effectiveness of the supply chain. This concurs with several literatures which have identified logistics as long term and voluntary relationships between two or more independent members of the supply chain (Crujessen et al, 2007; Schmoltzi & Wallenburg, 2012). The importance of supply chain integration is well established according to Balcik et al, (2010), Maon et al, (2009) and van Wassenhove, (2006) especially when linking the idea of humanitarian logistics for the better achievement of goals. Indeed, better collaboration and coordination of members within the greater supply chain network may well lead to a more robust SCM. However, the presence of integration from a practical perspective is still questionable as members within the chain may find it difficult to expressly execute specific functions due to the complexities of integration. Zurita (2017) explains the lack of integration among food processing companies in Malaysia and this translates to the difficulties of integration. This paper however, establishes that despite the complexities, integration is still an essential component in SCM.

## **2. Literature Review**

In today's hypercompetitive environment, a business organization can no longer operate and survive alone (van Heck & Vervest, 2007; Tatarynowicz et al, 2015). Globalization has demanded that no organization can be a closed system and in relation to supply chains, logistic activities inherent in SCM demand that coordination be present to ensure effective supply chains. Logistic is one of the key elements of SCM and its functional efficiency may well affect the level of success of a firm (Bowersox et al, 2013). Given the increasing complexity of supplying to businesses and shipping out products in an increasingly globalized supply chain, the scope of logistics widens to the business processes level rather than just the functional level. Those involved in logistic understand that supply chain operations have the tendency to expand as well as engaged in many SCM activities and responsibilities (Stank et al, 2005). For that reason, the range of logistics activities now consider key SCM business processes and the efficiency as well as effectiveness of these processes are directly influenced by logistics. Thus, the importance of integration in supply chains need to be further emphasized to understand the essential implications.

### 2.1. Logistics and the Importance of Integration in Supply Chain

It has been established that the competitive agile environment today requires business organizations to work together and emphasizes more on the positive implications of synergy more than individualistic objectives (Kamal & Irani 2014, Gupta & Ramesh 2015, Danese & Romano 2011). For that reason, all entities in the supply chain must collaborate at the highest level to be successful. According to Ballou (2007), SCM is the foundation for companies to be more competitive. Indeed, the reality of today's practice is that real competition is not measured as company against company but rather supply chain against supply chain (Simon et al., 2015). The success of supply chain integration is indirectly derived from the integration of logistics, business process or activities and companies, within a company as well as between companies (Qi & Chu, 2009). Subsequently, this will enhance and improve external relationships with both suppliers and customers. Hence supply chain strategy is presently seen as a source for profit contribution.

The benefits of logistics in supply chains can best be seen through the diverse activities performed in organizational processes. Table 1 outlines the logistics activities inherent in different processes as indicated in various literatures. As logistics may be useful in supply chain, it is pertinent to identify key processes where logistics activities are executed. This is where the strategic orientations adopted by businesses are directly linked to the SCM.

Table 1. Relating logistics activities to business processes

Process	Logistics Activities	Contributions
Customer Relationship Management (CRM)	1. Provide detailed information about the current company logistics capabilities and costs.	) Logistics costs are captured with a great level of detail
	2. Conduct a SWOT analysis of the logistics. Capabilities and costs: strengths, weaknesses, opportunities, and threats.	) The cost-to-serve is calculated for each key customer and customer segment
	3. Identify the value created by logistics services offered by the company.	) Logistics capabilities are translated into specific deliverables ) Top management understands and uses logistics capabilities to compete ) Top management understands competitors' logistics strengths and weaknesses ) Management understands how logistics services create value and sells this value to customers
Supplier Relationship Management (SRM)	1. Provide information about the supply logistics costs.	) Logistics costs are included in the calculation of the total cost of ownership of purchased materials
	2. Define the logistics service to be provided by the supplier and its performance indicators.	) Logistics considerations are included in supplier PSAs based on supplier segmentation
Customer Service Management	1. Define performance indicators and measure and monitor the performance of the different levels of logistics services offered to customers.	) Potential logistics-related failures can be quickly detected and addressed
	2. Define procedures for responding appropriately to each change occurred (failures, changes) based on the existing logistics capabilities and help the company to recover from customer service failures.	) Logistics capabilities are used to recover from potential service-failures

Demand Management	1.	Define logistics information needs and constraints for demand forecasting.	)	The forecasting process suits the logistics needs in terms of timeliness and level of detail including time horizon, products, and geographical areas
	2.	Identify potential critical points of logistics operation interruptions		
	3.	Calculate the logistics costs and analyze logistics implications arising from the demand variability.	)	The synchronized (S&OP) process includes logistic information and capabilities
	4.	Find ways to make logistics system more flexible.		

Source: Adapted from Lambert et al. (2008)

Table 1 addresses the benefits of logistics and how the activities can be integrated into the business processes of firms. Lambert et al (2008) outlines the activities that are commonly associated with logistics that are crucial in numerous business processes like Customer Relationship Management (CRM), Supplier Relationship Management (SRM), Customer Service Management (CSM) and Demand Management. These are only a few critical processes in organizations whilst many more can be linked to logistics activities. These include order fulfilment, manufacturing flow management, product development and commercialization and returns management (Lambert et al, 2008).

Additionally, Bowersox and Closs (1996) and Bowersox et al (2013) proposed a model for logistics organizational development cycle highlighting that the process-oriented structure is the most developed type of structure. According to these authors, logistics is a process as well as a contributor to the process like new product development, customer order processing and fulfilment, and order delivery. Correspondingly, logistics activities can be performed in supply chain tasks while also acting as a collaborator in other processes of business.

## 2.2. Alignment of Logistics activities with Corporate Business Strategies

Marchesini and Alcantara (2016) stated that to assist in the implementation of major strategies, logistics activities should be a part of the process. Corporate strategic objectives must be compatible as well as aligned with logistics. Logistics capabilities have been well acknowledged for most important contributions to overall corporate strategy and performance. In fact, with logistics understanding and alignment, businesses can become more competitive by creating differentiated customer value. Therefore, to achieve success, it is important to ensure that the strategic directions of the company are aligned with the logistics capabilities (Morash et al, 1996; Yazdanparast et al, 2010).

## 2.3 Supply Chain Orientation and Business Process

The supply chain orientation is the antecedent to the implementation of supply chain management. According to Mentzer et al (2001) and Esper et al (2010), supply chain orientation is the acknowledgment of the association of the systematic and strategic implications of the activities involved in managing various streams of a supply chain, both upstream and downstream of the focal company. Supply chain orientation in the strategic and functional implementations is pertinent in SCM across all supply chain member companies.

## 2.4 Customer Value and Logistics Implications

Ultimately, logistics in supply chains demand that customers' needs are met. Customer value can be generated by logistics activities through efficiency, effectiveness and/or differentiation (Fugate, Metzger & Stank, 2010; Yazdanparast et al, 2010). What this entails is the idea that effective logistics lead to

superior products and services that meet customers' visualization of value. Effectiveness is the capability to achieve the expected target of the logistic goals such as providing customer needs regarding stock availability, improve time for ordering process as well as product warranty. Therefore, the level of logistics services relates to the company's ability to fulfil customer needs that leads to effectiveness as set out in the Product and Service Agreements (PSAs) (Fugate et al., 2010).

For efficiency to occur in logistics, it is important to optimize the use of resources. On another note, differentiation is the capability to supply customers with the best distinctive value as well as gaining competitive advantage over other companies. Hence differentiation is the ability to separate from other competitors in offering superior value to the customers (Stahl & Bounds, 1991; Fugate, et al 2010). According to Ballou (2007), logistics aims to provide customer service that is of better quality and low cost in the context of supply chain management. Since logistics services are targeted at identifying and meeting logistics needs of customers, logistics management directly influence the effectiveness and efficiency of the business processes to cater to customer requirements (Kohn, McGinnis & Kara, 2011). This is the proposition of this paper as logistics is now seen from a different perspective where business processes are given more emphasis in the management of supply chains. What this need therefore is integration as without integration the link between logistics and business processes within the bigger context of SCM will not be achieved.

### **3. Discussion**

What has been discussed here relates to the importance of understanding the concept of integration. It has been established that integration is important in SCM especially for value creation and business performance improvement as demonstrated by Frohlich and Westbrook (2001) and Ataseven and Nair (2017). They established that the wider integration of a focal company with its suppliers and customers simultaneously will lead to more performance. The importance of integration in supply chains is indicative of the execution of functions of members within the supply chain network as they strive to move goods and services from the point of origin to the end users. However, very few studies have linked integration in supply chains with business processes (Lambert et al, 2008). There is a need therefore to establish the relevance of integration in SCM within the context of key business processes.

In practice however, there are still issues that need to be addressed. The complexities of the supply chain functions imply that integration is never an easy task. Within the context of varying supply chain environments, ensuring total integration can be difficult. However, Zurita (2017) finds in her study that customer focus as a new dimension of cognitive construct based on social capital understanding helps to facilitate the implementation of supply chain integration. This is essentially the form of understanding necessary to strengthen further the importance of integration in supply chains. Although this conceptual paper has only provided a brief review of studies on how integration can further be extended into business processes, it has essentially lay down the possibility of enhancing integration in SCM into strategic areas of key business processes. Logistics is not only about operations but should be extended further into strategic dimensions.

On a more practical note, Msimangira and Venkatraman (2014) assert that supply chain management integration cannot be achieved without the adoption of the SCM concept into the organization's culture. This may not necessarily be an easy feat given that SCM demands both inter and intra-organizational capabilities and getting the commitment of all parties involved may be extensively challenging. Nevertheless, Bagchi and Chun (2005) report that supply chain integration influences operational performance and the extent of integration has also been shown to influence firm's cost and efficiency. Additionally, the importance of supply chain integration for improving firm performance has been of key interest among researchers and practitioners as means of achieving corporate sustainability (Ou et al.,

2010; Flynn, et al., 2010; Basnet & Wisner, 2012). This therefore, further strengthens the need to focus on supply chain integration as a strategic dimension for long term survival of organizations as sustainability is indeed a qualifying factor in addressing firm's longevity. The implementation of strategic business processes demand that a holistic view in planning is undertaken and this would involve essential components of SCM. Thus, developing a holistic SCM structure where integration, business processes and logistics demands are taken into consideration will indeed move organizations closer to efficiency of performance.

#### 4. Conclusion

This conceptual paper outlines the importance of addressing integration in the context of SCM. More importantly however, this paper addresses the linkage between logistics as a part of supply chain activities and strategic business processes. There is a need to further conduct empirical analyses of the relevant dimensions in a framework that considers supply chain integration, logistics activities and key strategic processes leading to effective performance in supply chains.

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