

# Dynamic Supply Chains: Models, Organizational Issues and Supporting Technologies

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## 1 The Challenge

In recent decades, with globalization, the financial crisis and the entry of new players in the global markets, the industrial enterprises in order to survive are forced to update its supply chain strategy in line with the new and challenging circumstances. Thus, company managers have put a growing interest in developing strategies designed to provide companies with the resources, capabilities and ICT technologies in order to compete successfully in the market.

Supply chain managers increasingly understand that it is the time to fundamentally rethink how to design and operate the supply chains that link with their own company, namely suppliers and customers. For too long, there has been a major concern with infrastructures, resource utilization and cut costing in the operation activities, ultimately in efficiency. However, even recognizing that maintaining lower levels of operating costs are important, achieving and maintaining future competitiveness demands more sophistication.

Lee proposed that successful supply chains must be agile, adaptable, aligned, and he described those supply networks as "Triple-A" supply chains. From his study he stated that top-performing supply chains possess these three qualities: agility to react speedily to sudden changes in demand or supply; adaptability to adjust to over time as market structures and strategies evolve; alignment to tune interests of all firms in the supply network in order to optimize performance. In sum, redirect the focus of the supply chain to the customer's needs and expectations.

Success cases such as Wal-Mart, Amazon, Zara-Inditex and others show that in today's customer-driven markets, what make the difference is not the product or service, but rather the customer's perceived value of the entire relationship with the company.

Hence, the question arises: How can supply network managers achieve agility, adaptability and dynamic alignment for their supply chains? Which reference model should be applied?

## 2 The Methodology

The company managers have put a growing interest in developing supply chain strategies to provide companies with resources and capabilities in order to compete successfully in the market. This research wants to shed light on which are the most important determinants (factors that influence supply chain strategies' behaviour) that impact on the supply chain configuration and strategy and how they influence on the performance of the whole supply chain. In order to achieve this objective it is proposed a conceptual model depicting the interrelationship between the different determinants and between the determinants and the different supply chain configurations correlating this with the overall supply chain performance. The Figure 1 presents the proposed reference model conceptual diagram. This diagram introduces elements to be considered in the definition of the supply chain strategy: the determinants; the mediators and the performance parameters.

The determinants are main factors that determine the supply chain behaviour. In consequence, one of the main goals of this research is to shed lights on which are the determinants that influence the supply chain configuration and strategy, and which is their impact on the supply chain performance.

On the other hand, the mediators are factors that could facilitate or not the interaction between the determinants, the supply chain configuration and the performance parameters.

From the literature review it was possible to identify the following four:

- Core Capabilities of the firm and/or supply chain;

- Resources of the firm;
- Context (Knowledge, ICT, Organizational, Sustainability);
- Regulation of the environment.

Finally, the performance parameters present the means to evaluate and assess the strategies followed and evaluate their performance.

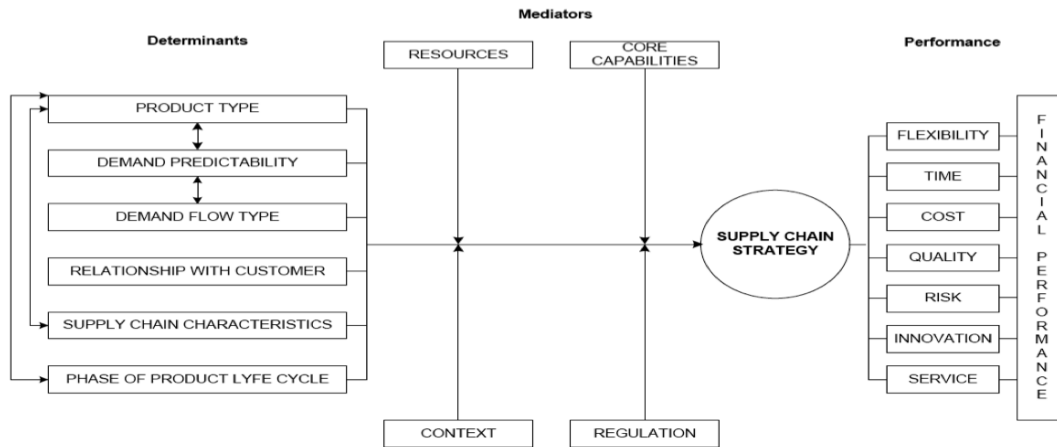


Figure 1: Supply Chain Strategy Reference Model

The proposed model is based in literature review and a within-case analysis, which allowed to study each company supply chain singularly and understand their requirements in terms case study analysis [9]. The following research steps involves the validation and enhancement of the reference model through a cross-case analysis among the different company's supply chain allowed in order to compare companies behaviors and understand the determinants factors and the mediators mechanisms. The present research project is framed in the CoReNet project (funded by EU 7th Framework Program) and is currently undergo through an intensive investigation of particular set companies belong to clothing and footwear supply chain industry.

### 3 The value to Society

The current business reality have shown that the alignment of the fitting value proposition with the customer's real needs and expectations significantly improves operating and financial performance and this is only possible when companies design and operate multi-align and multi dimensional customer-focused supply chains.

Through the proposed dynamic supply chain reference model is possible to supply chain managers and stakeholders to: focus consistently in fulfilling customer requirements; improving profit margins through "value-added" supply chain products and services; achieve functional excellence in addressing the different customer segments from high value segments to lower cost-focus customers; develop new service offerings from continuous innovation across the different supply chain types.