

A Strategy Based View of Supply Chain Competitiveness

Ajay Verma, Nitin Seth

Abstract—In this era of competitiveness, there is a growing need for supply chains also to become competitive enough to handle pressures like varying customer's expectations, low cost high quality products to be delivered at the minimum time and the most important is throat cutting competition at world wide scale. In the recent years, supply chain competitiveness has been, therefore, accepted as one of the most important philosophies in the supply chain literature. Various researchers and practitioners have tried to identify and implement strategies in supply chains which can bring competitiveness in the supply chains i.e. supply chain competitiveness. The purpose of this paper is to suggest select strategies for supply chain competitiveness in the Indian manufacturing sector using an integrated approach of literature review and exploratory interviews with eminent professionals from the supply chain area in various industries, academia and research. The aim of the paper is to highlight the important area of competitiveness in the supply chain and to suggest recommendations to the industry and managers of manufacturing sector.

Keywords—Competitiveness, Supply Chain Competitiveness, Collaboration, Coordination, Cooperation.

I. INTRODUCTION

PRESENT-DAY market environment is characterized by product innovations, decreasing product lifecycles, assorted customer's tastes, rapid developments in technology, globalization of business, and turbulence and volatility in world affairs [1]. In this complex and competitive environment, manufacturing organizations are evolving from traditional rigid structures to responsive and customer oriented business models and inter-organizational forms. Manufacturing organizations have to consider the concept of competitiveness to survive in the global marketplace by fulfilling requirements of the customers for high quality and low cost products [2]. These forces make the survival of Indian manufacturing industries more difficult than ever. At the same time, manufacturing industries are among the most important sectors contributing highest to the GDP growth of India and hence a necessary part of economic growth for India [3].

Supply Chain Competitiveness (SCC) has been emerged as an approach where the cost, quality and delivery requirements of the manufacturing organizations are the objectives shared by every stakeholder in the chain. In recent years, several

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changes in the market place, such as increasing diversity and competition, have stimulated theory and practices in supply chain competitiveness [4]. The Indian manufacturing sector is the mainstay of entire Indian industry as manufacturing output constitutes over 75 per cent of the index of industrial production. Indian manufacturers have adopted a global mindset while carefully selecting their product segments. They are continuously working to achieve cost excellence and marketing capability which has even attracted foreign players to proactively develop India as their sourcing and manufacturing hub [5].

TABLE I
GDP GROWTH RATE OF INDIA IN PERCENTAGE (2001-2012)

| -Year- | GDP growth rate (in percentage) |
|--------|---------------------------------|
| 2001 | 3.9 |
| 2002 | 4.6 |
| 2003 | 6.9 |
| 2004 | 8.1 |
| 2005 | 9.2 |
| 2006 | 9.7 |
| 2007 | 9.9 |
| 2008 | 6.2 |
| 2009 | 6.6 |
| 2010 | 10.6 |
| 2011 | 7.2 |
| 2012 | 6.9 |

Source: [5]

Manufacturing is an important sector of Indian economy that needs more focus on competitiveness especially in supply chains. Manufacturing Industries in India are attempting to move from the era of efficiency in the manufacturing processes to that of effectiveness in providing customized products to the consumers. These firms are realizing the global competition and rapid changes in the demands of the ultimate customers [6]-[7]. So, to provide products of customer's choice is becoming more and more difficult due to technology changes, rapid change in requirements, globalization and many such forces [8]. A simple manufacturing supply chain comprises of three components, i.e., the supplier, the focal organization and the distributor as shown in Fig. 1 [9]-[10].

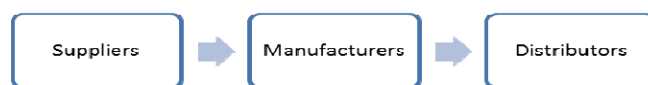


Fig. 1 A simple manufacturing supply chain [9]

Manufacturing firms mainly operate in a dynamic supply chain consisting of a network of companies with interdependent entities. These business entities may have manufacturing plants or facilities which span beyond the national boundaries encompassing several countries around the globe.

II. COMPETITIVENESS IN SUPPLY CHAINS AND SUPPLY CHAIN COMPETITIVENESS

Competitiveness can be defined as the ability of firm to design, produce and or market products superior to those offered by competitors, considering the price and non-price qualities [11]. The word competitiveness is originated from the Latin word, *competer*, which means involvement in a business rivalry for markets. It has become common to describe economic strength of an entity with respect to its competitors in the global market economy in which goods, services, people, skills, and ideas move freely across geographical borders [12], [13].

Supply Chain Competitiveness (SCC) refers, in general way, to gain competitive advantages by one supply chain on the other [14]. Supply chain competitiveness comprised of competitiveness of the elements of supply chain viz. supplier's competitiveness, manufacturer's competitiveness and distributor's competitiveness as shown in Fig. 2 [15].

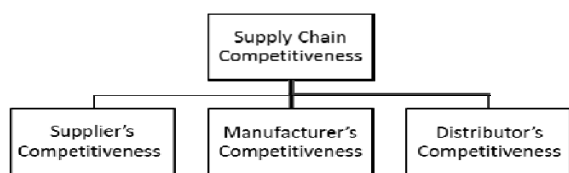


Fig. 2 Supply chain competitiveness

Supply Chain Competitiveness has been described as a multidimensional and relative concept. The significance of different criteria of competitiveness changes with time and context. Theories and frameworks must be flexible enough to integrate the change with key strategic management processes if their utility is sustained in practice. Thus, organizations need to manage their resources and processes more efficiently than their competitors [16]. In the subsequent sections, various important strategies for supply chain competitiveness are identified and described.

III. STRATEGIES TO ACHIEVE SUPPLY CHAIN COMPETITIVENESS

Based on the literature review and consultation with eminent practitioners, academicians and researchers, various strategies have been identified. But the most important select strategies are shown in the Table II.

TABLE II

| STRATEGIES TO ACHIEVE SUPPLY CHAIN COMPETITIVENESS | | |
|----------------------------------------------------|------------------------------------------|-----------------------|
| S.No.. | Strategies for SCC | Author (year) |
| 1 | Cooperation | [17]-[20] |
| 2 | Agility | [2], [13], [21], [22] |
| 3 | Delivery Performance | [8], [10], [23], [24] |
| 4 | Customer Orientation and Their Responses | [23]-[26] |
| 5 | Mass Customization | [17]-[20] |

These strategies are further described in the following section.

A. Cooperation

Cooperation, from the Latin *co*, meaning “together”, and *operari* meaning “to work”, refers to situations in which parties work together to achieve mutual goals. It is a set of joint actions of firms in close relationship to accomplish a common set of goals that bring mutual benefits. Cooperation can be achieved by Trust and Commitment [17], [18]. Compatibility is defined as having complementary goals and objectives as well as similarity in operating philosophies and corporate cultures [19], [20].

B. Agility

Agility is the ability to market successfully low cost, high quality products with short lead times and in varying volumes that provide enhanced value to customers through customization [2]-[13]. Agility means to change according to the changing demands of the customers as quick as possible and it is now becoming the major activity for SCC [21], [22]. Agility can be achieved through quick response, competency and quality of service [21].

C. Delivery Performances

In a global scenario, if an organization can meet delivery dates with quantity and quality, in time it is meeting the delivery performance and supply chain performance is also improved and thus the competitiveness [8]. Delivery Performance is achieved by Lead Time Reduction, Delivery Reliability and on time Delivery. Speed and reliability of the delivery ensures quality and quantity of the orders [10], [23], [24].

D. Customer Orientation and Their Responses

Customer orientation means to think through the minds of the customers and it emphasizes on providing more and more value to the customers, satisfying their needs, responding to the changing demands, and moreover to satisfy the customers [23], [24]. Responsiveness represents the ability to respond to the customers' needs and changing demands. High level of responsiveness has a significant impact on the customer satisfaction which in turn leads to competitive advantages [25], [26].

E. Mass Customization

Mass customization provides high quality products to the customers with minimum cost and maximum variety with availability [4]. Mass Customization has evolved from the two

prevailing manufacturing paradigms of the 20th century; craft production and mass production [21]. It captures many of the advantages of both the mass production and craft production systems, mass customization gives firms important competitive advantages and helps to drive new business model [24], [27].

IV. THE SCC MODEL BASED ON STRATEGIES TO ACHIEVE SUPPLY CHAIN COMPETITIVENESS

Considering the importance of these strategies, a conceptual model of supply chain competitiveness has been thought of and represented in Fig. 3.



Fig. 3 SCC model based on the strategies

The model highlights the importance of the strategies to achieve SCC. From the Fig. 3, it is clear that supply chain competitiveness can be achieved only when these strategies are performed in an integrated way of information flows in both the directions i.e. forward and backward. All these strategies are impacting the supply chain performance as well as SCC if given due considerations.

V. CONCLUSION

Supply chain competitiveness has been emerged as one of the most important philosophies in the recent supply chain literature as now a days companies are not competing with each other but supply chains are competing with one another. In this paper, select strategies to achieve supply chain competitiveness have been comprehensively identifies using an integrated approach of literature review and exploratory interviews with experts in the subject area from industries and academia. Further, a supply chain competitiveness model based on these strategies has also been discussed. This model can be empirically tested using any adequate method such as Interpretive Structural Modeling or Structural Equation Model. The model also provides insights to the managers of supply chain in respect of that more attention should be focused on more important strategies. The paper has threefold objectives i.e. identification of the select strategies of supply chain competitiveness, a comprehensive description of these strategies and modeling these strategies to better understand the rarely explored area of supply chain competitiveness..

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