

Management Science and Engineering ISSN 1913-0341 Vol.3 No.2 2009
Canadian Research & Development Center of Sciences and Cultures 06/20/2009
E-mail: mse@cscanada.org; caooc@hotmail.com Http://www.cscanada.org

Agile Supply Chain: competing in volatile markets

LI Cai-feng¹

Abstract: Turbulent and volatile markets are becoming the norm as life-cycle shortens and global economic and competitive forces create additional uncertainty. Under uncertainty volatile competitive environment, supply chain are reaching the point where they need to be more agile-intelligent, fast in movement, flexible, and efficient customer responsive to changes, this paper suggests that the key to survival in these changed conditions is through agility- Float like a butterfly and sting like a bee, especially, by the creation of efficient consumer responsive supply chain. A definition and the route are addressed, meanwhile the paper discuss the approach that using agile supply chain to competitive in the volatile and turbulent markets.

Key words: agile supply chain; information technology

INTRODUCTION

Uncertainty is also the defining characteristic competition of competition among organizations and will increase due to a combination of factors in future supply chain environment. These factors include: globalization of supply chain, convergence of low cost computing and low cost communications and increases capability to extend product variety and reduce product life cycles while remaining cost competitive. Meanwhile these factors are the most important set of drivers of change. These drivers promote end-customer to demand for greater choice and improved value. In parallel, competition between supply chain and the organizations participating in them will increase. Product and technology life cycles are likely to continue to shorten, while demand will be increasingly difficult to forecast. For most product-service propositions, the marketplace will be increasingly turbulent, placing greater pressure on supply chains to respond in an agile manner. The kind of supply chain exists to serve the end-customer, not the other way around. The output of supply chain is not just a physical product, but a combination of time, place, form and function of a product/service proposition. Supply chain priorities are constantly changing and lead to an ongoing need for coordinated, time-based responses. In the 21st market environment today, proliferation of products and services are increased, product life cycles will be shorter, and rates of product innovation will be increased. Simply responding quickly and at the right time in the past are not enough to meet the needs of such marketplaces. Agile supply chain which

¹ School of information and management engineering;
Xi'an university of post & telecommunicatious, xi'an Shaanxi, China.

* Received 11 February 2009; accepted 20 April 2009

combined needs of demand and quickly delivery and so on will be emerged in the future.

THE DEFINITION OF AGILE SUPPLY CHAIN

In brief, Agility is like that Float like a butterfly and sting like a bee. Agility is ability that responds rapidly to unpredictable changes in demand. Agility means using market knowledge and virtual corporation to exploit profitable opportunities in a volatile market. They could spot a fleeting opportunity and shoot off a well-placed blow before the moment passed. Then, what is agile supply chain? Supply chain agility as both critical to business success and growing in importance over time. Respondents expected agility to confer multiple benefits, including higher revenues, greater customer satisfaction, and increased market share, and faster time to market.

Supply chain agility is a network's ability to consistently identify and capture business opportunities more quickly than its rivals do. Elements of Agile supply chain have time competitive and efficient consumer responsive. It provides ability. The ability to be able to meet the demand of customers for ever-shouter delivery times and to ensure that supply can be synchronized to meet the peaks and troughs of demand is clearly of critical importance in this era of time-base competition. To become more responsive to the needs of the market requires more than speed, it also requires a high level of maneuverability that today has come to be termed agility.

THE NATURE OF AGILE SUPPLY CHAIN

Until recently, supply chains were understood mainly in terms of long-term upstream collaboration with suppliers. An equal amount of emphasis is now paid to downstream collaboration with customers and lateral collaboration with competitors as a means of integrating the total value creation process. A supply chain, therefore, describes the series of linked activities which includes the process of design, manufacture and delivery of products and services. The agile supply chain is a measure of how well the relationships involved in the processes mentioned above enhance four pivotal objectives of agile manufacturing (Hock et al., 2001). These objectives are customer enrichment ahead of competitors, achieving mass customization at the cost of mass production, mastering change and uncertainty through routinely adaptable structures, and leveraging the impact of people across enterprises through information technology.

Agile shows that enhanced responsiveness is a major capability of it. Enhanced responsiveness is important as an addition to the high level of efficiency in cost, quality and smooth operations flow, which have been associated with lean supply chains.

Supply chain agility can be discussed in term of two dimensions of reach and range of activities covered by networking amongst companies.fig.1 illustrates the two-dimensional framework. On the vertical axis, information reach extends from person to person through to global. On the horizontal axis, the range of activities widens from electronic messaging to internet-based integration. Accordingly, the degree of freedom in supply chain integration widens from bill of material controls through purchasing efficiency to planning and control of supply chain operations.

Agile supply chain extends to the highest levels on both dimensions of reach and range. At the highest levels of attainment of two dimensions, the conduct of internal operations will be transparent to suppliers and customers. To the extent, responsiveness to changing competitive requirement becomes easier to master as a matter of routine, and with little penalties in time, cost and quality.

THE ROUTES TO AGILITY

To be truly a supply chain must possess a number of distinguishing characteristics. The agile supply chain is Market sensitive. By market sensitive is meant that Supply chain is capable of reading and responding to real demand. The use of information technology to share data between buyers and suppliers is, in effect, creating a virtual supply chain. Virtual supply chain is information based rather than inventory based. by information technology which includes EDI and internet which enables partners in the supply chain to act upon the real demand, rather than be dependent upon the distorted and noisy picture that emerges when orders are transmitted from one step to another in an extended chain.

Shared information between supply chain partners can only be fully leveraged through process integration. By Process integration is meant Collaborative working between buyers and suppliers, joint product development, common systems and shared information. This form of co-operation in the supply chain is becoming ever more prevalent. As supply chain focus on managing their core competencies and outsource all other activities. In this new world a greater reliance on suppliers and alliance partners becomes inevitable and, hence, a new style of relationship which there can be no boundaries and an ethos of trust and commitment must structure.

The idea of agile supply chain as a confederation of partners linked together as a network provides agility. We are entering the era of “network competition” where the prizes will go those supply chain who can better structure, co-ordinate and manage the relationships with their partners in a network committed to better, closer and more agile relationships with their end-customer. It can be a route to sustainable advantage in today’s challenging global markets lies in being able to leverage the respective strengths and competencies of network partners to achieve greater responsiveness to market needs.

USING THE SUPPLY CHAIN TO COMPETE

It is becoming increasingly clear that the changed conditions in the global marketplace demand a much more agile response from the organization and its partners in the supply chain. The idea in the past was that marketing success was based upon strong brands and innovative technologies. Today, brands and innovation are still critical but they are not enough, instead the winning combination is strong brands and innovative technologies supported by an agile supply chain capable of responding more rapidly to volatile demand. For example, from marketing channel perspective, stock is held at the fewest echelons, if at all with finished goods sometimes being delivered direct from factory to end-customer. From the demand forecast angle, replenishment of all echelons is driven from actual sales data collected at the end-customer interfaces. Production is planned across functional boundaries from vendor to customer, through highly integrated system, with minimum lead times. Majority of stock is held as “work-in-process” awaiting configuration instructions. True competitive advantage is gained when the company is able to consistently meet the needs of customers more precisely and in a more timely way than anyone else. As the realization grows that it is no longer company competing against company but rather supply chain against supply chain, then the prospect of market leadership will surely be enhanced.

REFERENCES

- Holweg, M, and Miemczyk, J.(2002) “Logistics in the three-day car” age: assessing the responsiveness of vehicle distribution logistics in the UK. *International Journal of Physical Distribution and Logistics Management*, Vol,32, NO.10, PP829-850.

Stalk, George, and Thomas Hood. (1990). *Competing Against Time*. New York: The Free Press.

Stalk George. (1998). Time-Next Source Of Competitive Advantage. *Harvard Business Review*,
July/August 1998.