

Collaboration in Supply Chain Management: What It Is and How to Use It? (An international review)

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Abstract:

This paper tries to explain the concept of collaboration in supply chain management. Significant insight about supply chain management and collaborative practices are provided in this paper along with potential benefits. Decision options for managers regarding collaboration in supply chain management are decorated. Considerable work is done to review vertical and horizontal collaboration in SC. This study also provides frame work for collaborative practices along with relative partners in supply chain management.

Keywords:

Collaboration, Supply Chain Management, concept of collaboration, options for managers

1.0 Introduction:

Firms are constantly responding to environmental changes through an assortment of cooperation tools like system alignment and outsourcing for sustainable profitability. To uphold a competitive score, firms must shift their manufacturing strategies to match their activities across functionally and geographically disperse partners. (Cousing and Lamming, 1999) states that manufacturers can maximize value creation and address effectively to demand through collaboration. The modern definitions of supply chain has its roots back to World War II as world powers begins to find out the way through which resources could be produced and spread throughout the globe effectively (Barclay, 2005). In 21st century competition is changed now firms are not competing against each other but supply chain is competing against supply chain (Whipple & Frankel, 2006). In mid 1990's different terms are used for collaboration such as Continuous Replenishment (CR), VMI (Vendor managed inventory) and CPFR (Collaborative forecasting planning & replenishment). Business environment changed due to rapid innovations in IT. Information technology changed the

competition from inter-enterprise in the direction of across supply chain (Gilbert & Ronald, 2000). Sharing of information across supply chain partners became easy as manufacturer uses IT as information sharing tool. Yes firms are developed now due to the courtesy of IT. New skills, techniques and disciplines are emerged in the field of supply chain management. Practionnaires pays attention to collaboration in supply chain management yet there are many hard issues which need further explanation from managerial perspective. There is a crack exists about what is collaboration in supply chain and how to use collaboration. This paper will cover this crack by analyzing collaboration and its various perspectives along with how manager use collaboration in supply chain to maximize supply chain surplus.

Key terms: Supply chain (SC), Supply chain management (SCM), Collaboration.

2.0 What It Is?

2.1 Collaboration:

The concept of collaboration is widely discussed in various subjects like sociology (Stern & Hacks, 2000) psychology (power et.al. 2005). It is also used in management (Singh & Mitchell, 2005) and marketing (Perks, 2000 & Jabs, 1999). This is also

used in the context of supply chain (Holweg et.al, 2005). In the context of supply chain collaborative practices maintains their spot as winning and sustainable business operations (Attaran, 2007). All are agree that collaborative efforts have become the foundation of efficiency in the area of logistics and Practionnaires realize its importance now. The success of business is now based on elimination of boundaries and developing collaboration between supply chain partners that leads to strong relationship between each other (Chan et.al, 2003). (Bahinipati et.al, 2009) provide a broader view of collaboration as, when two or more partners in s supply chain or in a network agreed to cooperate with one another that's leads to greater ease of work and achieving objectives. According to (Whipple, 2003) when partners are involved in a close and trustworthy relationship for the purpose of reducing cost and improving efficiency that leads to higher profitability. The simplest definition of collaboration in SC refer as, a strong mechanism to achieve either efficiency or effectiveness in SC (Mentzer et.al, 2000). One thing is important from theses definitions is that literary authors focus on close and trustworthy relationship across supply chain and the ultimate goal is the higher profitability.

2.2 Collaboration & Supply chain management:

The concept of supply chain get attention of researchers for more than last twenty years as it involves flow of material, information and money (Mehrerdi, 2009). Supply chain is a series of activities and stages that involves flow of material from initial supplier to the end customer (Waters, 2003). Supply chain management (SCM) is the process of managing whole supply chain that connects suppliers with ultimate consumers. (Lambert et.al. 2006) refers SCM as, a progression of integrating processes from initial suppliers who provides products and services to final consumers which add value for all stakeholders and typically concerned with efficiency or responsiveness. Collaboration in SC can be described as, a mechanism in which two or more partners work together to create a sustainable competitive edge by sharing reliable information, taking joint decisions and sharing of profit which is the result of higher profitability which cannot be achieved alone (Simatupang & Sridharan, 2002). Many authors consider collaboration as sharing of risk, mutuality and rewards with the foundation of information sharing across partners (Barret & Oliveria, 2001; Stank et.al., 1999). In literary work many

terms such as cooperation, coordination and collaboration are used interchangeably (Deshmukh, 2008). But these are the sequence of activities to achieve

collaboration in SC (Kampstra, et. al, 2006). The journey from open market to collaboration is shown in fig 1.

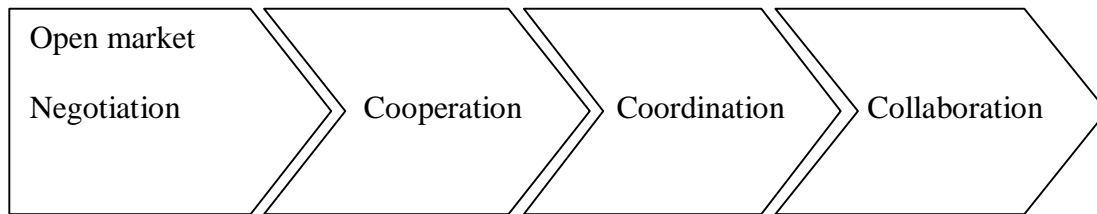


Fig: 1 Adopted from: Spekman et.al. (1998)

Despite the fact that highest value is derived through building close relationship with partners and suppliers. Practionnaires must be aware of the issue of no confidence between partners which results blocking of information sharing across partners (Waters, 2003). Traditionally, SC relationship starts with open market negotiation and need time to convert in trustworthy and win-win situation for both partners (Mangan et.al, 2008). (Spekman et, al., 1998) provides a framework for developing collaboration in SCM (fig 1). Open market negotiation is a starting point of relationship building in which almost little bit of information is shared. The second stage is cooperation which means working together. In cooperation partners work together to achieve a common goal (Weaver, 2011). Third stage is coordination in which partners across enterprise form a mutually beneficial

unit in which they work together and enhance profitability. Most attractive stage for Practionnaires is collaboration. In it two or more people work together to achieve a same objective (Weaver & Visich, 2011). As collaboration is attractive stage for manufacturers it needs further clarification.

2.3 Collaboration and Supply Chain performance:

Due to rapid changes in environment firms constantly strive to improve their supply chain performance through increased efficiency (Magnan, 2002; Eillinger, 2002). Due to functional focus stock out in inventory and back log occurs and demand is disconnected with supply which causes reduction in efficiency of SC (Ireland, 2000). But when demand is connected with supply through forecasting and collaborative efforts organization than compete

successfully. No one cannot doubt the success of Japanese auto motive industry in 1980 and 1990 (Womack et.al, 1999) because they think differently as using collaborative practices across SC. Yet manufacturer doesn't ignore the fact that firms are not competing with each other but supply chain is competing against supply chain. The success story of Toyota also based on collaboration as Toyota lean manufacturing approach is nothing but a collaborative effort (Jones & Womack, 1996). (Moore, 1996) states "Competition" is dead and "Co-opetition" is a road to success yet SC performance heavily depends upon Collaboration. Thus, managing SC is the foundation for success. Collaboration across partners in SC results in higher profitability and efficiency increased which is the first priority of manufacturers. SC performance cannot afford arms-length relations now days because every partner wants more value which depends upon SC performance (Cox, 1999). Strong collaborative and close relationships with SC partners (win-win) based on trust is the basic need for achieving efficiency in SC.

3.0 How to Use It?

3.1 Managerial decisions for collaboration:

The Question where can we collaborate in SC has significant importance from managerial point of view. Collaborations come in a variety of forms. (Barratt, 2004) provides a frame work for collaborative decisions (Fig; 2). According to fig 2 collaboration have two forms: (1) Vertical collaboration in which manager collaborate across functions with customers and suppliers (2) Horizontal collaboration that includes collaboration internally with competitors and with other firms which can add value (Sridharan & Simatupang, 2002). In horizontal collaborative practices firms or partners share information and share capacity of a facility with other firm. Managers are interested more in vertical collaboration as it is a "*Fresh Battle field*" and more perfect place for achieving efficiency. Internal collaboration (Horizontal side) on the other hand is a way forward for integration of processes in SC and it conquer functional myopia (Stank et, al, 2001; Stevens, 1990). While taking decisions regarding internal collaboration manufacturers must note that internal integration must be associated with Constraints and supply chain drivers.

External collaboration (Vertical side) offers significant opportunities as it involves two major stake holders of SC (Supplier & Customers) see fig 2. Downstream side of fig 2 includes collaborative practices for customer as: CPFR (collaborative forecasting planning and replenishment), CRM (Customer relationship management),

shared distribution, demand planning and collaborative forecasting. Upstream side of fig 2 involves decisions regarding suppliers as VMI (vendor managed inventory), Collaborative logistics, and collaborative production design and scheduling such as new product development.

Vertical collaboration

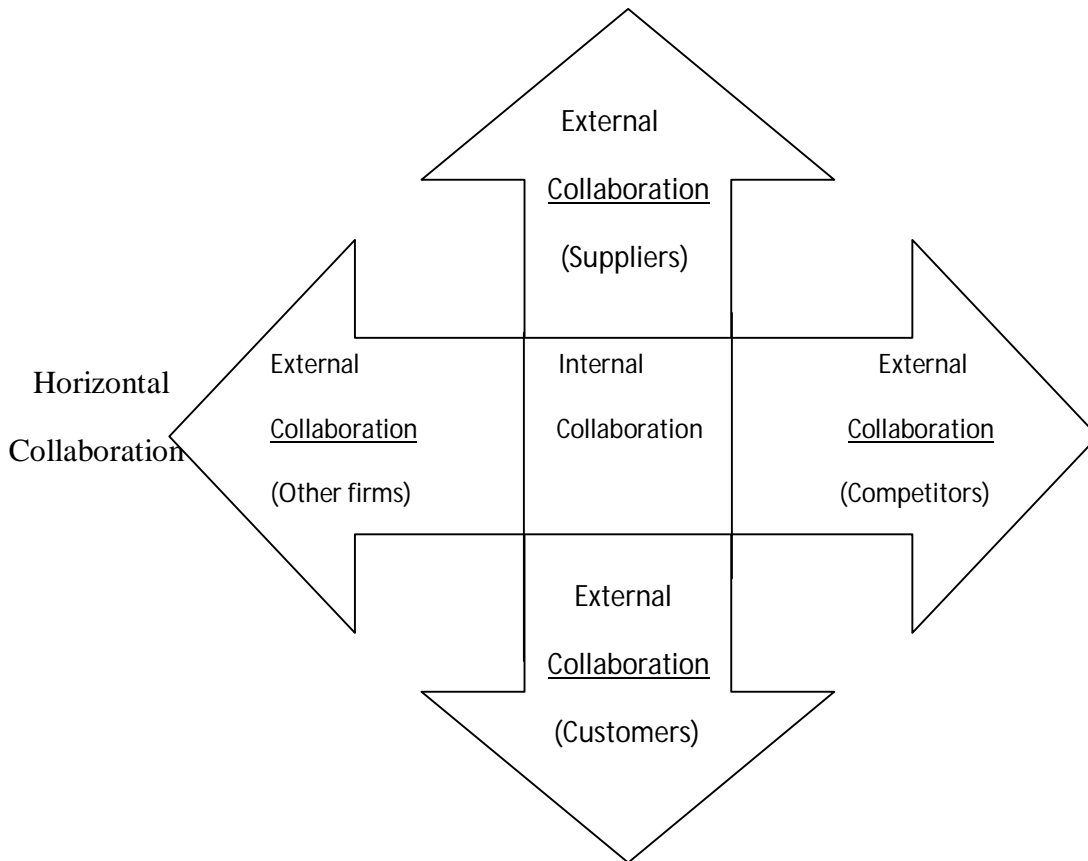


Fig: 2 Barratt, 2004

Fig 2 provides a more insightful view of SC and collaborative efforts and answer the question where manager can collaborate.

The description regarding fig 2 highlights different aspects of supply chain and their importance. Vertical collaboration is more

important yet decision should be based on the nature of SC and the prerequisite is collaboration.

Conclusion:

Supply chain collaboration is a widely discussed Meta concept. Every author has its own point of view about collaboration. But all are agree that SC performance now dependent on collaboration as competition is dead and co-opetition emerges. Different terms are highlighted in this paper for collaboration. This study provides a deep insight of SC and collaboration as vertical and horizontal collaboration along with

relative concepts. In this study it is recommended that efficiency in SC can be achieved by building strong collaborative relationships with customers. Practionnaires can get the answer what is collaboration and how to use it from this study.

This paper provides good understanding of collaboration and its use but that's not enough. More work is required to understand the elements of collaboration. It is suggested that future research must be undertaken to provide insight about SC elements and their relationship with collaboration tools.

References:

- Attaran, M. and Attaran, S. (2007), "Collaborative supply chain management: Business process management journal, Vol.13 No.3, p.390-404.
- Barratt, M., & Oliveira, A. 2001. Supply Chain Collaboration: Exploring the Early Initiatives - Part One. Supply Chain Practice, 3(4): 34 - 43.
- Barratt, M.: "Understanding the Meaning of Collaboration in the Supply Chain, "Supply Chain Management: An International Journal, Vol.9, No.1,pp.30-42 (2004).
- Barratt, M. (2004) Understanding the meaning of collaboration in the supply chain, Supply Chain Management: An International Journal, vol. 9, no. 1, p.30-42.
- Cox, A. (1999), Power, value and supply chain management, Supply Chain Management: An International Journal, vol 4, p. 167-175.
- Cox, A. (1999), Improving procurement & supply competence', in lamming. and Cox, A. (Eds). Earls gate press, Boston, UK.
- Christine,M.H.,Lamming,R.C., and Cousing.: "Developing the concept of supply strategy",International Journal of Operations and Production Management, Vol.9,p.650-674 (1999).

- Ellinger, A.E. (2000), “Improving marketing/logistics cross-functional collaboration in the supply chain”, *Industrial Marketing Management*: Vol. 29, p. 85-96.
- Ireland, R. and R. Bruce (2000), “CPFR Only the beginning of collaboration”, *Supply Chain Management Review*, Vol Sept/Oct.
- Speakman, R., Kammouff, J. and Myhr, N. (1998), “An empirical investigation into supply chain management: a perspective on partnerships”, *Supply Chain Management*, Vol. 3 No. 2, p. 53-67.
- Stern, A.J. and Hicks, T. (2000), “The Process of Business/Environmental Collaborations: Partnering for Sustainability, Quorum,” Westport, CT.
- Singh, K. and Mitchell, W. (2005), “Growth dynamics: the bidirectional relationship between Inter firm collaboration and business sales in entrant and incumbent alliances”, *Strategic Management Journal*, Vol. 26 No. 6, pp. 497-522.
- Stank, T.P., Keller, S.B and Daughtery, P.J. (2001), “Supply chain collaboration & logistic service.
- Stank, T.P. and House, R.G. (2001), “Insights from a logistics partnership”, *Supply Chain Management: An International Journal*, Vol. 6 No. 1, pp. 16-20.
- Speckman, R.E., Kamauff, J.W.Jr and Myhr, “ An empirical investigation into supply chain management; a perspective on partnership.’*Supply chain management* Vol. 3 No. 2, p. 53-67.
- Simatupang, M.T, R. Sridharan, 2002.
- Steven, G.C. (1990), “ Successful supply chain management ‘ , *Management decisions*, Vol. 28, No.08, p. 25-30.
- Kampstra, R.P., Ashayeri, J., and Gattorna, J.L (2006), “Realities of supply chain collaboration”, *The international journal of logistics management*: Vol. 17 No.3, p. 312-330.
- Mentzer, J.T., Foggin, J.H. and Golicic, S.L. (2000), “Supply chain collaboration: the enablers, impediments, and benefits”, *Supply Chain Management Review*, Vol. 4 No. 4, p. 52-80.
- Mentzer, J.T., Foggin, J. & Golicic, S. (2000), *Collaboration: The Enablers, Impediments, and Benefits*, *Supply Chain Management Review*, Sep/Oct, p. 52-58.
- Mehrjerdi, Y.Z. (2009) *The collaborative supply chain*, *Assembly Automation*, vol. 29, no. 2,p. 127-136.
- Moore, J.P. (1996). *The death of competition*, Harper Collins, New York, NY.

- Whipple, J.M. & Frankel, R. 2006. 'Strategic alliance success factors', *Journal of Supply Chain Management*, 36(3): 21–28.
- Waters, D. (2003), *Logistics: An Introduction to Supply Chain Management*, Palgrave Macmillan Ltd, ISBN: 0-333-96369-5, Great Britain.
- Womack, J.P., Jones, D.T. and Rose, D. (1990). *The machine that changed the world*, Rawson associates, New York, NY.

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