

Full Length Research Paper

Horizontal collaboration in purchasing: A successful case from small and medium enterprises (SMEs)

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The idea of collaboration instead of competition among business enterprises in a same level has been growing rapidly. Small and medium sized enterprises as well as large ones are in a search to change their relationships with suppliers. Although there is plenty of literature on the vertical relationship between supplier and customer, fresh and comprehensive academic literature is very scarce in the debate of horizontal collaboration among competitors. In this context, the implementation of inter-firm collaboration and networks is accelerating among small firms. Group purchasing also known as horizontal collaboration in purchasing is the most common use inter-firm collaboration among small and medium sized enterprises (SMEs) in which the firms join a strategic alliance to gain bargaining power over suppliers. In the first stage, the paper presents a brief overview on the literature of group purchasing, and in the next step a case of horizontal collaboration in purchasing among a group of food SMEs will be discussed. During the methodology progress, data was collected through quantitative questionnaires through direct contact with the SME firms for the pre-implementation time period and the purchasing alliance for the after implementation. Data measurement was done to evaluate the implementation effects of purchasing alliance on both cost effectiveness and lead time aspects. The results illustrate a significant decrease on both purchasing price and delivery time from suppliers.

Key words: Inter-firm collaboration, SMEs, group purchasing.

INTRODUCTION

Supply chain management (SCM) consists of a set of approaches used to integrate suppliers, manufacturers, logistics, and clients as a whole in an effective way enabling them to enhance their flexibility and responsiveness to meet the requirements of the changing market (Gunasekaran, 1999). Some factors such as the decrease in cost of the underlying technological requirements like software, the early reports of benefits and the industry-wide learning of best practices, and the greater probability of having to compete against rivals enjoying the advantages of SCM play essential role in this management (Trebilcock, 2002). Since all the business organizations are engaged in at least one chain of supply, the companies which can recognize their position are more capable to improve their condition. Today, the focal point of the tangible factors for development and innovation has shifted from large enterprises to small and

medium sized companies which display symptoms of a healthy economic growth in comparison. In this line, SMEs play vital role in supply chain management as they take part in value creating activities (Hong and Jeong, 2006). The significance of effective SCM is also visible in an organization's potentiality of a competition advantage (Trebilcock, 2002). However, the main question concerns the affectivity level of the function of small and medium sized companies. An empirical study carried out by Arend and Wisner (2005), supports that SMEs implement SCM in a different way than large companies and the difference has in turn an important association with SME performance. The results show that without SMEs the companies enjoy fewer advantages from the chain coordination due to the inconsistency related to the size of SMEs and their limited resources and small rates of input and output. Moreover, based on the prospective role of the organization in the supply chain, collaboration opportunities among business partners vary significantly (Sahay, 2003). Collaborations are of different size and strength in which are divided into two main groups,

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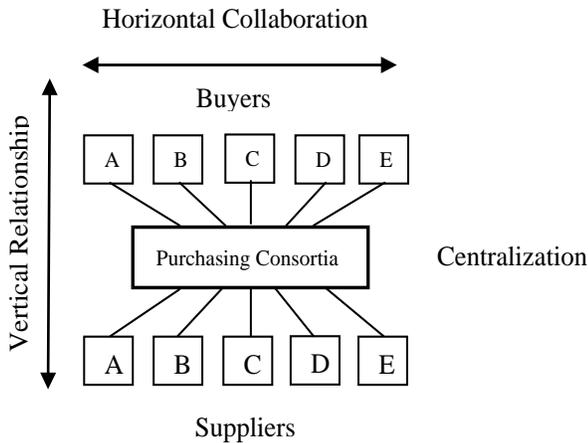


Figure 1. Theoretical framework of group purchasing (Tella and Virolainen, 2005).

namely soft and hard networks. First, this paper is going to present a brief overview of group purchasing as an example of soft cooperation, and then it will discuss a case of horizontal collaboration in purchasing among a group of food SMEs. The required data, collected through quantitative questionnaires directly from the SME companies will form the discussion in the methodology section. At the end of the paper we will come to the achieved results which illustrate a considerable decline in purchasing price and delivery time.

REVIEW ON HORIZONTAL COLLABORATION IN PURCHASING

Today, it is widely believed that collaboration among supply chain members will lead to competitive advantage, while constructing and operating a competitive supply chain is the primary objective of supply chain management (Ghaderi et al., 2010). The importance of design and implementation of collaborative supply chains can play a crucial role in sustainability of the overall performance of parties which operate within overall management process keeping the organizational goal in front (Alam et al., 2010; Alam, 2009). One of the most rapidly emerging theories about the competitiveness of SMEs is that both can be accelerated through inter-firm collaborations (Rosenfeld, 1996). Among the coexistence amount of research in the field of inter-firm collaboration, it appears to be a chronic focus for a separate identity in the field of purchasing management (Ramsay, 2001). In this context, horizontal cooperation with other buyers seems not to be a momentous area of interest (Essing, 2000). However, nowadays many business organizations pool and/or share their purchasing volumes, information, and/or resources in purchasing consortiums (Schotanus et al., 2010).

In 1980s, purchasing started to play a more fundamental role in industrial business activities. Most companies strengthened their contacts with outside resources, especially suppliers. In practice and research the focus changed from a short term view on price cutting to a long term relationship in supply chain management.

In the latter, supply management and purchasing literature, there is sufficient amount of attention on the vertical cooperation between buyer and supplier which leads to a more sustainable purchasing behavior. This is while the focus on the horizontal collaboration between independent organizations that join to pool their orders is very inconsiderable. Figure 1 illustrates a theoretical framework of group purchasing (Tella and Virolainen, 2005). In the literature, the horizontal collaboration in purchasing is defined in many terms such as pooled purchasing, alliance purchasing, group purchasing, cooperative purchasing, purchasing consortia, etc. Schotanus and Telgen (2007) have de-fined group purchasing as the cooperation between

two or more organizations in a purchasing group in one or more steps of purchasing process. The same author specified the advantages of pool purchasing in the cooperative cost aspects and disadvantages such as anti-trust issues and exposure of strategic information (Schotanus et al., 2010).

Fresh academic literature on the subject of group purchasing is not very available and most of the previous works back to the 1980s and 1990s. Especially purchasing consortiums have received very little attention in the literature of discipline by industrial organizations. Essing (2000) developed the concept of consortium sourcing which is roughly equal to other definitions of this activity. In his efforts a comprehensive study has been conducted to investigate the perception of academia on the concept of horizontal cooperation in purchasing was done. He concluded that compared to vertical relationships, horizontal cooperation has not been a major research area of supply management and the consortium sourcing is not widespread in the industrial sector, Schotanus and Telgen (2007) found that the main motive for participating in purchasing consortia is the cost saving and the roots can be found in the power of negotiation over the suppliers and the lower transaction cost. In the same study, the cost saving, gaining information about potential suppliers was another motive for members to join the consortia.

METHODOLOGY

Data collection

Data was collected for two time period of pre-initiation of the purchasing consortia and after implementation in respect. At the first stage, the data were collected by direct contact with the SME firms through quantitative questionnaires for 5-months of regular operation. The collected data for the second stage of implementation was gained by direct contact to the management of the

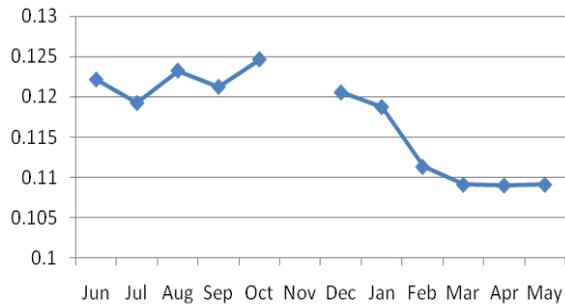


Figure 2. The average of purchasing cost reduction in 11-months.

purchasing consortia which was responsible for the procurement of ordered issued by union firms for the last 6-months.

Data measurement

As a tradition, data measurement process involves designing and developing appropriate mathematical factors for measuring the performance of a process in equal conditions. Two main factors were assigned for the proposed research to measure the performance of the purchasing process for both time periods of pre-implementation and after. The paper has afforded to deploy the proposed essential factors of cost and leading time in the data measurement to optimize the process of measurement (Table 1).

RESULT AND DISCUSSION

Reduction in purchasing price was significant

The final result for factor of purchasing cost was very astonishing. Many firms are encountered with 7.4 to 12.5% reductions in the purchasing price of a particular product. In total, the average cost of the purchasing price for all the members of union in the last 11-months is shown in Figure 2. The vertical column shows the average of purchasing price in US Dollars.

It is considerable to mention that month number 6 is the period of joining and initiation which the results are not reliable for the research.

Lead time was shortened

The second factor which was deployed in the case study to measure the efficiency of purchasing process is the measurement of the lead time. The lead time covers the time from sending the order to the supplier or in the case of collaboration to the purchasing consortia. Reduction in the lead time will cause a reduction of the inventory and in result smaller investment capital for the procurement sector. Another significant advantage of shorter lead time can be seen in the efficiency of Just in Time (JIT) strategy.

The indicator of delivery time in this project is only measured for the domestic orders and the international

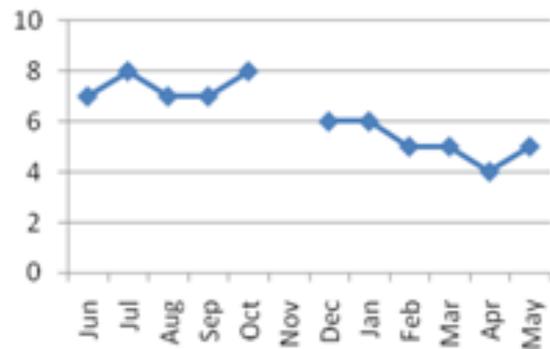


Figure 3. The reduction in the lead time from suppliers.

Table 1. Data measurement factors.

Factor 1	Cost effectiveness	Purchasing price per unit
Factor 2	Lead time	Delivery time from suppliers

orders is not a measurable case in terms of frequency cooperation in purchasing. Before initiating the purchasing consortia there were several cases for domestic outsourcing which the delivery time takes to 8 days. This lead time reduced to 4 and 5 days in many cases (Figure 3). The point is unforgettable that there are plenty of cases which the leading time reduced to half time in the purchasing consortia compared to the pre implementation of the project.

Furthermore, in the latter supply chain management there are numbers of influential points which have positive direct correlation with the lead time. With more supply, there is a peak time in which the number of orders increases, leading to a gradual trend in production. This intensive amount of orders is a potential initiative to delay in responding to customers' requests. Another factor which has a great influence on the supplier response to orders is the difficulties which many firms encounter in providing their needs. In conclusion, the lead time issue is affected by a variety of independent factors where in many cases are predictable, where the vertical numbers stand for the delivery time in days.

Conclusion

Group purchasing is one of those controversial argues in which the theoretical concept seems very feasible, but in practice numerous adversarial points appear. In establishment of purchasing consortia, there are strategic factors which play a crucial role in the success of the overall system such as appropriate decision making criteria on selection of the item for group purchasing and

the management of consortium in a neural way. In this context, the examined case of group purchasing in this study can be considered as a successful example in terms of cost effectiveness and time saving. The results show an average reduction of 8% in comparison to the time period of before collaboration. Moreover, in terms of delivery time of orders from domestic suppliers, the lead-time reduced from average of 8 to 6 days for one particular raw material. To sum up, the success of horizontal collaboration in purchasing cannot be achieved unless building trust and effective supervision to manage the purchasing group. Reduced purchasing cost and shorter lead-time are considered as direct consequences of this cooperation, and on the other hand smaller volumes of inventory, well-conditioned raw materials, and customized orders can be constructed in long term implementation.

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