

**A model for Supply Chain Management when  
the balance of power between buyer and supplier is not clearly defined**

Fabio Frigo-Mosca is Professor of Logistics, University of Applied Sciences of Southern Switzerland SUPSI, Lugano-Manno.

His specific research interests include procurement management and customer-supplier relationships in the industrial sector. Fabio's research draws heavily from the consulting and applied research projects experience. Fabio's academic qualifications include a Ph.D. in industrial engineering earned at the Swiss Federal Institute of Technology ETH in Zurich.

Address:

SUPSI

Fabio Frigo-Mosca

Galleria 2

CH-6928 Manno

Switzerland

Phone: +41 91 610 86 86

Fax: +41 91 60 86 87

e-mail: [fabio.frigo-mosca@supsi.ch](mailto:fabio.frigo-mosca@supsi.ch)

## **A model for Supply Chain Management when the balance of power between buyer and supplier is not clearly defined**

Since in Switzerland more than 99% of the companies are SMEs, it is necessary to develop conceptual frameworks that might help these companies to better exploit the potential benefits along the logistics chain and manage the relationships dynamics. In this paper, a possible framework is presented for discussion and further development.

### ***Introduction***

In the process of introducing the post mass-production paradigm in the Western countries, one of the basic and certainly most complex step is the development of a more efficient supply chain management. To this regard, several papers and studies<sup>1</sup> have shown that the strategies followed by most leading companies have significantly increased the outsourcing of manufacturing activities. One of the most evident consequence is that purchasing processes have become more important in terms of company results. These processes have also evolved from a focus of a commercial kind to a holistic approach.

Why, then, a new concept of customer-supplier relationship is needed?

Among others, two main reasons exist to research in this area and develop conceptual frameworks.

First, supply chain management systems have been developed especially for the automotive and the aerospace industries and therefore they cannot be directly applied to the relationship between SME's. The power relationship is not such that a company can impose on the other the new conditions, often renouncing its independence. Since in Switzerland approximately

---

<sup>1</sup> A recent study of Mercer Consulting Group and the Fraunhofer Institute reports on the situation in the automotive industry. 77%

97.9% of the companies are Small Enterprises and 1.8% Medium Enterprises<sup>2</sup>, it is necessary to develop conceptual frameworks that might help these companies to better exploit the potential benefits along the logistics chain and manage the relationships dynamics.

Secondly, the roles of the subjects involved in a customer-supplier relationship have been changed to meet the new goals, like efficiency of the logistics chain in terms of costs, time to deliver and time-to-market. Purchaser and seller are not the only actors in the negotiation and the relationship.

### *The SCM-partnership framework*

In the last few years, we have gathered first- and second-hand experiences from the industrial world. Through research and consulting projects, we have empirically detected some “golden rules” for the success of long term buyer-supplier relationships, when SME’s are involved. These experiences have been validated by discussions with representatives of the buyers’ association and by reviews of the literature for academics and consultants.

As a result, we found out that one of the success factors in a SCM partnership framework is a holistic approach to the problem, that is, to consider the relationship between companies as a whole, from a strategic to an operative level.

The main difference between this concept and what existed before is that here a network of communication is built to accelerate the information exchange and delivery times. This is the only way to compress the total time-to-market, while the development and engineering of a new product are common tasks between buyer and supplier.

Such a need for a close and quickly established communication network defines the limits of the proposed framework. It works better when the companies are in a limited geographic

---

<sup>2</sup> Data provided by the Federal Office of Statistics and related to the 2001 census.

area. Whether or not they should also belong to the same cultural area is a subject for discussion.

In the proposed framework, the relationship between enterprises is a three-level structure: a strategic, a technical-commercial and an operational level.

The Figure below shows the framework with the objectives and actors of the three levels, the kind of information exchanged and their relationship to orders and products.

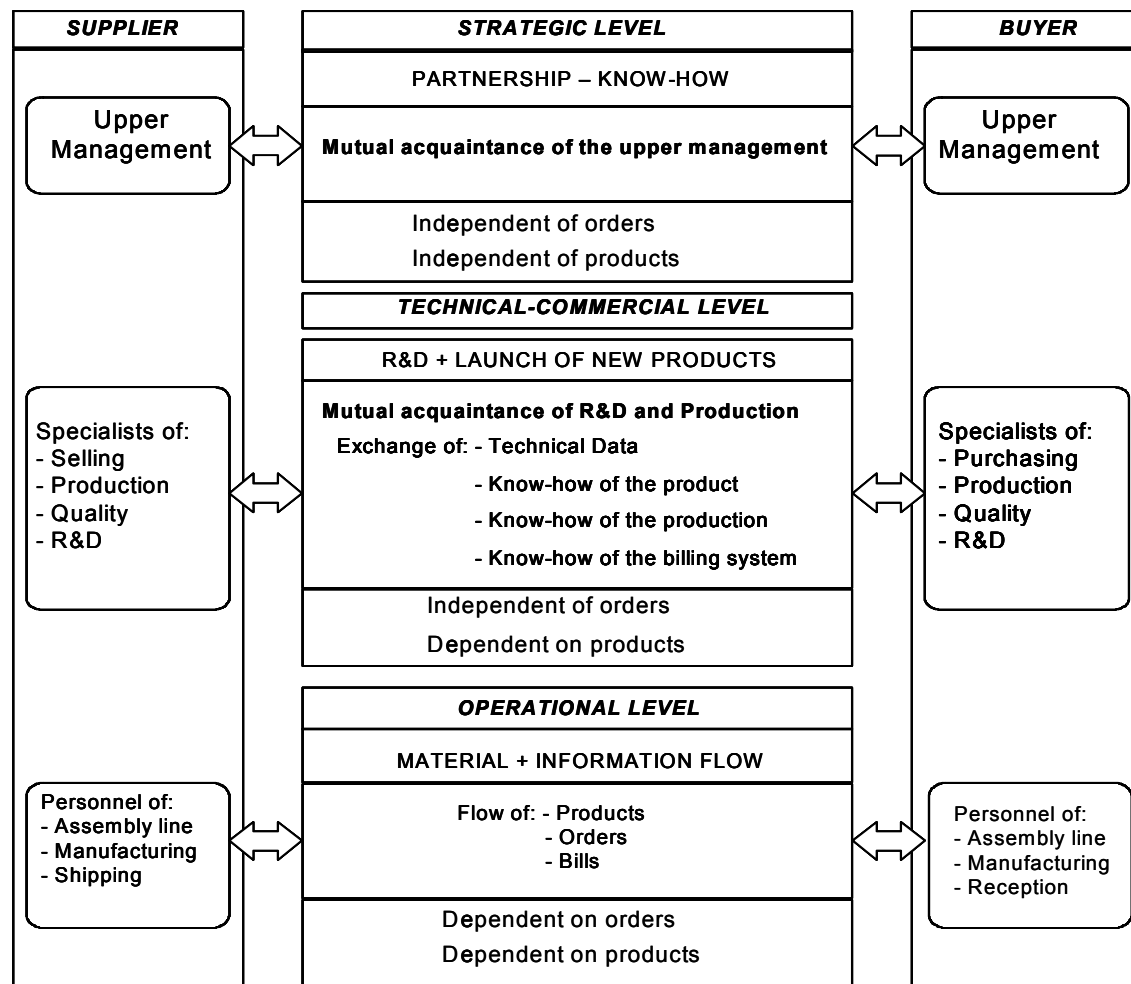


Figure A-1: The SCM partnership framework

### The three managerial and behavioral approaches to the framework

Before describing the three levels in detail, it is necessary to consider three managerial and behavioral aspects, on which the success of the framework might depend.

- Mutual trust
- Creation of a win-win situation
- Process and workflow orientation

The importance of the three approaches has been stressed in scientific literature since the beginning of the 90's. In fact, the lack of consistency of many managers and the economic crisis suffered at the beginning of this century have hindered the introduction of these managerial approaches – especially the first two – which more than anything else affect human behavior with regard to the use of power. Indeed, the role of power in the imbalanced relationships was identified more than 10 years ago (Hendrick and Ellram, 1993).

### **Mutual trust**

Mutual trust and respect guarantee an effective sharing of benefits and risks for all actors in the supply chain. For instance, Moody (Moody, 1993, p.18) defines trust as "the fuzziest driver to partnering" and Handy (Handy, 1995) stresses the relationship between trust and the virtual organization. Consultants underline the importance of trust to reduce and even avoid ineffective controls, which cause an increase in costs. In the proposed framework, trust is the first condition for the strategic level and is reached through the mutual acquaintance of the upper management of the enterprises.

### **Creation of a win-win situation**

This win-win situation should be stressed to such an extent that even a small supplier of commodities might be pushed to offer better services and a better integration. The scientific evidence that proves that a win-win situation is preferable dates back to the Game Theory of von Neumann and Morgenstern (von Neumann and Morgenstern, 1949) and the Prisoner's Dilemma.

### **Process and workflow orientation**

The framework is also based on process and workflow orientation. The use of tools of Process Reengineering based on the assumptions of Hammer and Champy (Hammer and Champy, 1993), allows the continuous redefinition first of supply processes and then all processes in Research & Development and Production.

### ***The strategic level***

The upper management of any company in the logistic chain should firmly believe that ALP is the right solution. Therefore, they have to support and monitor the process of shifting to ALP with all necessary commitment and conviction. Their task is also to define goals and required resources.

The upper management is responsible for changing the company mentality. The supplier or customer is no longer a milking cow, as in the worst case scenario, but a well-known and esteemed partner. However, this is not always the easiest way to follow. Old prejudices have to be changed and sometimes power centers in the company eliminated.

### **The make-or-buy decision**

The strategic level is responsible for the make-or-buy decision, that is, determining what the firm should produce and what it should purchase.

According to the basic principle of the strategic know-how of a company, all that is a part of the core product should be manufactured by the company, while anything else should be purchased.

A reason to produce anything that is not a part of the strategic know-how is that a supplier cannot yet deliver a part with the requested quality or affordability. This should just be a temporary decision made while building the partnership and waiting for the supplier to develop higher capabilities.

### **Single sourcing or multiple sourcing?**

An important question that a customer should ask is whether an item should be delivered by one or multiple suppliers. Multiple suppliers offer theoretical security of supply, but they are more costly to manage. The goal of ALP is to achieve the same security with only one supplier. Single sourcing should not be avoided when a product is engineered by both the buyer and supplier. For standard components, a supplier should be found to periodically replenish depleted stock of material.

### **Choosing and knowing the partner**

In order to establish a good partnership, a company should first select the customer or supplier it wishes to cooperate with. This is done by an evaluation of the supplier or customer.

If two companies want to cooperate with each other, members of both companies upper management must become acquainted. Medium and long term goals of each partner should be explained during several meetings.

If a common point of view has been found during these meetings, the next step is the definition of common goals for the two partners. These goals have to be stated in a partnership contract, setting out the terms of the collaboration. The purpose of this contract is not to provide a legal tool in the case of a dispute, but to produce a document that defines the terms of the relation and establishes trust between the two companies. The contract, therefore, is a sort of “engagement” between two companies whose main common goal is leadership of the defined market. A partnership contract should have effect for several years, starting with 3 to 5 years. Shorter contracts are not long enough to reach a good level of cooperation. The contract should include logistic and quality aspects, continuous improvement goals and product innovation policy.

A partnership contract is not a contract that guarantees quantity: all risks are shared by the partners, and none of them can produce a fixed quantity if no customers are available to buy the goods at the end of the chain.

A partnership contract is an exclusive contract, which means that all parts of a particular type of item shall be purchased from the partner-supplier.

### **Evaluating the partner**

The following criteria should be considered for a partnership:

- A technical evaluation of the output of the supplier, based on costs, service and affordability.
- A global evaluation of the suppliers capabilities based on total costs. Total costs are the price plus costs of delay, errors, scrap, inventory, etc.
- Evaluation of improvement efforts and self-improvement capabilities.
- Strategic evaluation of the company, of its technological potential, financial strength, organizational and managerial capabilities.

In a few words, the trustworthiness of the associates of the other company should be evaluated.

### ***The technical-commercial level***

The technical level concerns the area managers and affects the exchange of technical and commercial know-how.

### **Exchange of technical know-how**

Product development is an activity which involves all departments of a company, including the technical and commercial departments. The main goal is the reduction of the time for the development of new products. These processes are defined in the technical level of ALP. In order to reach these goals, the entire development process of new products should be



considered. Principles like Simultaneous Engineering should be introduced in the company. The partners in the logistic chain should build Co-Design teams. Co-Design means that teams with members of the two companies take part in the development of a new product.

### **Organizational integration**

Bridges between the two companies should be established: responsibilities, language, processes, quality controls etc. Critical decisions should be made by mutual consent and implemented in relation to the development of the product.

### **IT Integration**

The technical opportunities for data exchange are enabled by the spread of of the Internet. From a recent study carried out in Switzerland<sup>3</sup>, about 65% of SME's are Internet users.

### **Information instead of inventory**

Information coming from end customers should be transmitted immediately to all involved partners through the logistic chain. This allows correct planning and the reduction of stocks. The lack of information is the typical cause of the Bullwhip Effect, well known in the literature since the publication of the researches of Forrester in the late '50s and the development of the Beergame by the MIT in the '60s.

### **Exchange of commercial know-how**

Commercial information should also be exchanged between the two partners. This information includes the definition of methods for the calculation of prices and for payments between the companies.

---

<sup>3</sup> The KMU TaskForce monitors SME's in Switzerland. In the last years it has regularly researched the increase in the use of Internet.

### **New role of the purchaser**

The purchaser needs higher qualifications and skills: He/she should know the technological and qualitative aspects of products and processes. Thus, he will not be a simple administrator of the supply, but he will become an administrator of suppliers with which he establishes the delivery quantity and frequency for a defined period. He should also evaluate suppliers, propose options, become the contact person for the suppliers and ensure that the suppliers' wishes and need are considered.

### ***The logistic-operative level***

The daily exchanges of material and information between the partners occurs at the operative level. These processes depend on purchase orders. It is very important that at this level the relevant personnel know each other well. The people working on the line should know what is happening to their products in the customer company. They should be aware of the consequences that an error can have and the name of the person to contact if something concerning the supply goes wrong.

### **The logistic flows between the companies**

The logistic flows between the companies are optimized through the elimination of redundant tasks, e.g. final control and entry control. The material flow should be clear and the management of the material flow easier. The information system should allow a fast data exchange. All this leads to smaller and frequent deliveries, which leads to lower stocks and costs.

### ***Conclusion***

In the scientific community and in reality, the expectations from a relationship based on trust, win-win and open communication are still very high even if, because of some misunderstandings in the last few years, consultants tend to be more cautious. Among others,

authors Forker and Stannack stressed the risk of "mismanagement of supplier expectations through an incorrect introduction of communication programs" (Forker and Stannack, 2001). A special point of interest is maintaining trust after changes in the company management or structure. Merges or restructuring of divisions and departments might affect the effectiveness of a partnership because of changes in personnel. The tremendous economic growth occurred in the last years of the 20<sup>th</sup> century has prompted companies to act more aggressively also towards suppliers. The result was that many durable relationships have been severed and it was impossible to restore the necessary level of trust.

## References:

- AAVV., Betriebszählung 2001, Bundesamt für Statistik, Berne ([http://www.statistik.admin.ch/stat\\_ch/ber06/bz01/dffr06.htm](http://www.statistik.admin.ch/stat_ch/ber06/bz01/dffr06.htm), printed on 3.5.2004)
- AAVV., Einsatz und Nutzung des Internets in kleinen und mittleren Unternehmen in der Schweiz, Staatssekretariat für Wirtschaft seco, 2003.
- Forker, Laura and Stannack, Peter, (2001) Co-evolutionary purchasing: several steps beyond supply chain management. In: Erridge, Andrew, Fee, Ruth, McIlroy, John. (Eds.), Best Practice Procurement. Gower, Aldershot (UK), pp.5-12.
- Forrester, Jay Wright (1958), Industrial dynamics - A major breakthrough for decision-makers. *Harvard Business Review* 36 (4), pp37-66.
- Hammer, Michael and Champy, James (1993), *Reengineering the Corporation: a Manifesto for Business Revolution*, New York: HarperCollins Publishers.
- Handy, Charles (1995), "Trust and Virtual Organization", *Harvard Business Review*, 92 (3), 40-50.
- Hendrick, Thomas, Ellram, Lisa, (1993) Strategic Supplier Partnering: An International Study, Center for Advanced Purchasing Studies, Tempe (USA).

Moody, Paula, (1993) Breakthrough Partnering: Creating a Collective Enterprise Advantage, Oliver Wight Publ., Essex Junction VT (USA).

Neumann von, Johann, Morgenstern, O.,1953, (third ed.). Theory of Games and Economic Behavior, Princeton University Press, Princeton NJ (USA)

Van Weele, Arjan and Rozemeijer, Frank, 2001. The role of power in partnership relationships: an empirical investigation of the current body of knowledge. In: Erridge, Andrew, Fee, Ruth, McIlroy, John. (Eds.), Best Practice Procurement. Gower, Aldershot (UK), pp.90-99.