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SUPPLY POLICES OF LARGE AND MEDIUM FIRMS: EMPIRICAL FINDING AND COMPARISONS

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INTRODUCTION

Nowadays the supply activities have become one of the most critical factors in the creation of added value (Pearson and Gritzmacher, 1990). Suppliers are no longer only required to simply conform to specifications rather, they are expected to incorporate value within the supply object and to develop an active relationship with the client. Consequently the client/supplier relationship is changing and now encompasses new aspects of cooperation. Furthermore, supply transactions require a longer time horizon and a greater degree of interaction between the subjects involved in the transaction.

Given the importance of supply policies within the context of a firm's operational and strategic activities, the authors, on the basis of empirical research conducted in North East Italy, have sought to highlight the main lines of evolution in the relationships between large client firms active in international markets and supplier firms.

The investigation was carried out using a structured questionnaire and diffuse interviews with managers in the firms. In depth case studies were used to assess the importance of managerial organisational and cultural factors.

Five cases of large and medium client firms were analysed, each characterised by a different response to the market and by a different production system, in particular: high technology (personal computers) and high volume (household appliances) make to stock production, engineering to order (large engines) and make to order (furniture) production . An average of seven suppliers cases were analysed per client firm. These seven were chosen on the basis of the relative importance of their relationship.

This paper aims to highlight the parameters used by the client firms when choosing their suppliers and assess the relative importance of such parameters; to evaluate the relationship criteria between the client firms and the suppliers both at present and in the future; to understand the evolution of such relationships in terms of the consequences of management innovation and the strategic choices of the client firm so as to be able to foresee changes induced within the supplier firms.

Within the evolution of the client/supplier relationship the following features have been examined from the point of view of the client firm: 1) the productive integration / disintegration decisions; 2) the model of the client/supplier relationship; 3) the typology of the supply demand; 4) the sourcing area.

THE INTEGRATION / DISINTEGRATION DECISIONS

Analysis of the cases studied has shown up a trend in which purchases, as a percentage of total turnover, are slowly and gradually rising. This indicates a propensity, on the part of the client firm, to continue with only the more strategic phases of the production cycle internally. In general terms, this propensity means that the supplying firms must necessarily develop greater management autonomy and greater efficacy in reaching the required levels of services in order to ensure the continuity of the relationships that have been set up.

If the increased recourse to the supply services does not present any particularly innovative characteristics, the way in which it is used could represent an important field for experimentation.

THE MODEL OF BUYER / SUPPLIER RELATIONSHIP

Supplying transactions are generally made up of a series of activities and of client/supplier interactions (directed towards the exchange of a good or a service) which are carried out through a multiplicity of channels (information, management, technology). Usually, these activities and interactions are only partly set out in the contracts. Here, by the model of this relation, we mean the totality of rules and behaviour that outline the negotiating situation which surrounds the transaction and reflects the temporal horizon within which this transaction develops.

A rapid evolution in the relationship with suppliers has been taking place in recent times. The relationship with these latter tends to be transformed from a simple commercial transaction into a cooperative exchange, based on reciprocal trust and on joint planning.

Within the model of this relationship the parameters used by the client firms when choosing their suppliers and the evaluation of these latters' strength and weakness are a key element for interpreting the evolution of relations. The variables of quality, punctuality and speed of delivery are seen as particularly important, which is in line with the requirements for TQM/JIT management. Improved performance in terms of costs, services, quality, innovation and time to market are required. In order to improve the services offered by their suppliers, client firms follow a policy of support for suppliers with of aim of introducing organisational innovations.

Beyond the specificities at the industrial or local level, in their more evolved form, models of the client/supplier relationship seem to be characterised by one element in particular: cooperation (Lyons, Krachenberg and Henke, 1990; Helper, 1991; Womack, Jones and Roos, 1990). In contrast to the antagonism and the individualistic competition of approaches in the past, and encouraged by more advanced production and management systems (Quality, JIT), modern operating models take as given a higher level of interaction (in production, design, engineering, technological development) between client and the supplier. The incentive to develop such interaction arises in the context of the operations and can form the basis of medium-long term agreements, joint ventures and the sharing of resources and skills (Imrie, Morris, 1992). Thus the buyer/supplier relationship changes from prevalently commercial transactions based on price, to cooperative relations. These latter shape the capacity for continuous joint improvement and the productive and logistical congruence of the respective operating systems so as to eventually reach the point of reciprocal involvement in strategic planning. The term "partner" describes the last step in a process marked by various typical events: from substantially independent production and management

systems to the congruence between these systems, the informative and logistic integration and the mutual involvement in all stages of product development.

The evolution of the buyer/supplier relationship is usually accompanied by a reduction in the number of suppliers. In fact, the requirements for technological design and production interaction imposed by modern management and production systems are such that the client/supplier relationship must necessarily be contained within a restricted number of channels.

This can be understood more easily through analysis of the impact of modern management systems (TQM, JIT etc.) on the client/supplier relationship.

The need to extend the quality system to supply activities forces the client firm to evaluate, select and train the suppliers: it is impossible to guarantee the quality of the final product unless the sources are simultaneously checked up on. The process of selection and training and of suppliers (especially of those suppliers who add a significant part of value to the final product) requires time and resources: investment concentrated not only in the initial temporary stages that start the collaboration, but spread over time according to the logic of continuous bilateral improvement.

The JIT system requires the levelling out of production, rigid adherence to production programmes, identification and removal of any source of waste (Scott, Westbrook, 1991). The elimination of the so-called slack resources (physical: stores, WIP buffers; temporal: broadening of lead times) is aimed to get a tighter integration and synchronization of the processes, so that production flows faster and more easily. This creates the need for a faster and more intense transmission of information and a greater degree of co-ordination between all units that make up the production process (Turnbull, Oliver, Wilkinson, 1992). Management of a JIT system also requires the accurate regulation and synchronization of supply flows and, hence, the selection, and reduction, of entry channels. A system that is based upon a multiplicity of sources of supply increases the problems in planning for deadlines and synchronising logistical flow.

The current dynamics of competition are an incentive to firms to adopt particular management and production methodologies that encourage more active interaction with suppliers throughout all phases of the operation value chain (De Toni, Filippini, Forza, 1992). Consequently relational costs (and their threshold of irreversibility) increase for both parties involved. Relational costs are those, for example, connected to the managerial and organisational implementation of TQM/JIT systems. Hence the costs of switching also increase and the supplying relationship becomes more exclusive.

Thus the supply relationship is not regulated only by market mechanisms. However, within the client/supplier relationship an internal competitive discipline is created which subjects both parties to reciprocal controls. The main (but not the only) instrument of control available to the client is that of multiple sourcing which allows the client to make a comparison between the services offered by diverse suppliers. The mechanisms through which this competitive discipline operates, as well as being largely unexplored, also offer a broad field for experimentation for firms.

THE TYPOLOGY OF THE SUPPLY DEMAND

All the firms analysed prioritised the supply of items and sub-assemblies requiring the first-tier suppliers to supply components with high added value.

The final assemblers also ask the first tier suppliers to take the responsibility for the choice of sourcing, control of the quality system and for the creation and evaluation of their own network of

suppliers.

This evolution has one important consequence: the supply chain tends to be set up according to stages that are controlled by separate and specific subjects who tend to correspond to different typologies of supply (Turnbull, Oliver, Wilkinson, 1992).

This set-up can be stylized by placing the final assemblers at one end, face to face with the final consumers, and at the other end the producers of components. The intermediary phases are managed by sub-assemblers who are able to supply the final assembler with "finished" parts or sub-assemblies (Figure 1).

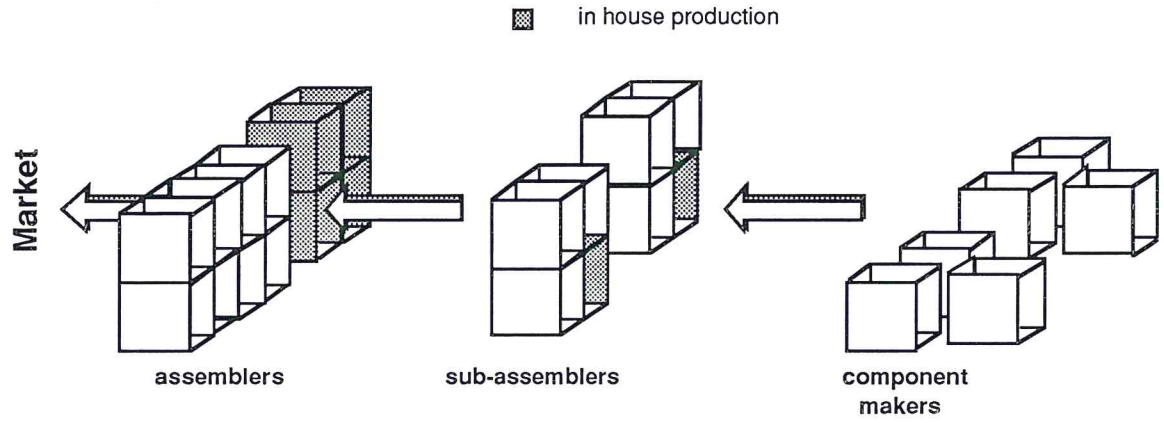

Figure 1: Stylized representation of the supply chain.

Thus it is possible to distinguish specific supply typologies within the supply chain. However the services and the contribution required from the source of supply does not remain constant along the supply chain. At the first tier, close to the final assembler, the critical factors are quality, the level and range of the service and the technological contribution offered by the supplier. At the successive tiers the cost variable tends to take greater priority. Hence, management behaviour and the degree or extent of cooperation within supply activity will vary according to the position of the supplier within the supply chain.

EXTENSION OF THE SOURCING AREA

Empirical comparisons show that the processes of integration and globalisation have had a marked impact on sourcing choices; the rationalisation of the pool of suppliers operated by the client firms has often taken the geographical area of reference beyond national frontiers. Furthermore, it is possible to identify a positive correlation between the geographical extent of the market served by the client firm and its sourcing area.

Traditionally the search for economies of cost has always proved and still proves to be an incentive to firms to look beyond their national boundaries for new sources (lower labour costs, less restrictive legislation, etc.) (Fagan, 1991). Today, more and more often other motives can be discerned which are connected to:

* the establishment of competitive models at a global level, especially in certain sectors. These

models are an incentive to seek global sources and to plan global logistic flows (Rinehart, 1992). For the final assembler this incentive translates into the identification of sources from the widest possible geographical area.

* the growing need to identify and acquire distinguishing capacities and skills (in terms of quality, delivery, incorporated technological innovations, etc.) outside the domestic market.

AN EVOLUTIONARY MODEL

The firms analysed all show many similarities in their supply policies. These are not directly affected by the sector the firm belongs to.

However, all firms have to face specific problems within their individual situations that alter the fundamental features of their relationship with suppliers. It is also clear that each firm is at a different stage in the life cycle of the client/supplier relationship, an examination of which helps in understanding the critical passages and constraints of the evolution.

These stages can be expressed on the one hand in terms of the client firm's demands for improvement in the relationship and the actions taken by it and, on the other in terms of the supplying firm's operative response, a response that is essentially tied into their organisational managerial and technological profile.

The demand for improvement can only evolve qualitatively when both parties concur. Hence, the passage from one stage to another depends on the growing levels of demand for evolution, as expressed by the client firm, being satisfied.

Thus a series of stimulus/response cycles come into being that will help the relationship to grow if the environment is receptive. If this latter is not receptive and response is not sufficient then this could inhibit the further evolution of the relationship.

Satisfying the growing level of demand clearly depends on the course of development of the relationship, that is, on the stimuli the client has presented to the suppliers.

The stages can be defined as follows (figure 2):

i) introduction, or rather reciprocal acknowledgement of the need to develop a closer relationship;

ii) construction of the relationship, that is, setting up of the mechanisms for evaluation/selection of suppliers and an increase in the operating services offered by the supplier in order to respond positively to the selection process; the suppliers are seen as an asset whose value should be increased through investment in advise and training activities aimed at achieving a systematic and continuous process of improvement in the levels of efficiency, quality response times, technological ability etc.;

iii) consolidation of the relationship, that is, the consolidation of a closer and more exclusive relationship between the parties involved in the transaction;

iv) checking and maintenance, that is, active monitoring of cooperation and the stimulus of competitiveness between the various suppliers concerned.

Each one of these stages corresponds to a different level of cooperation within the client/supplier relationship.

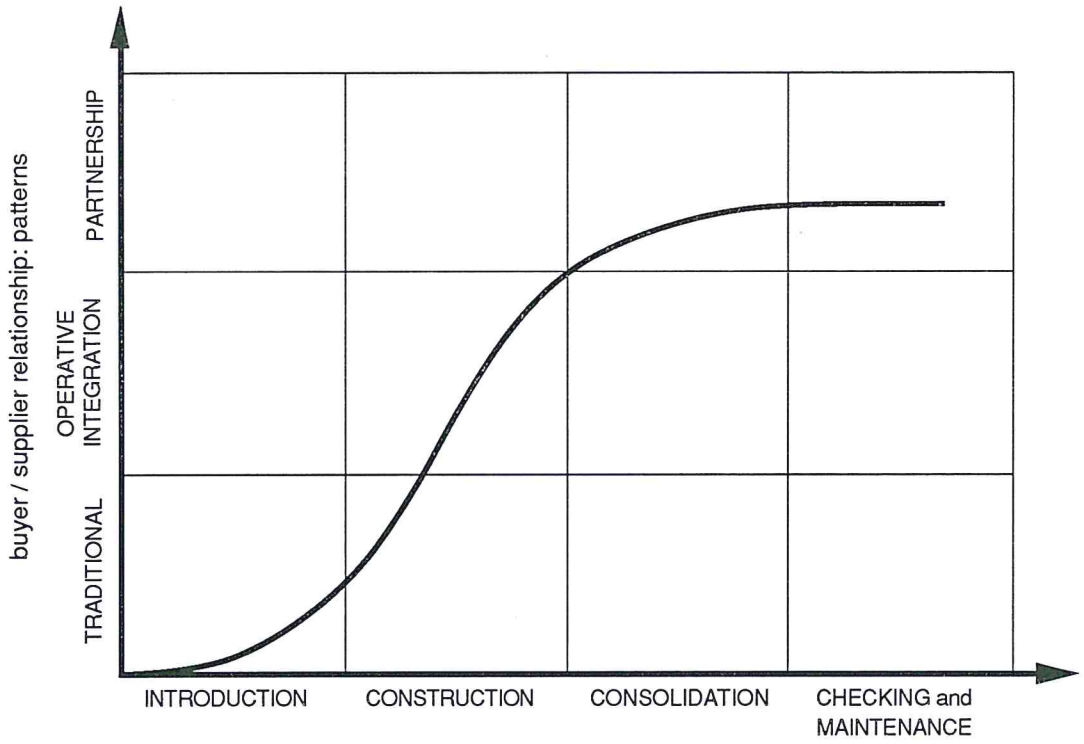

Figure 2: the evolution of the buyer / supplier relationship

These levels are associated with different patterns of reference:

* the traditional pattern characterised by enquiry buying and by a time horizon agreed by contract that ends with that single transaction; here quality controls are required when the supplies arrive in house.

* the pattern of operative integration, characterised by agreements to collaborate over a long period; the supplier undertakes to check on the quality of the product and takes full responsibility for quality, hence there is no quality control on the product when it arrives in house, supplies are sent frequently and in small lots determined by open orders.

* the pattern of partnership, characterised by strategic and operative cooperation. This cooperation entails the continuous exchange of information and data regarding products (design, functionality, materials, incorporated technologies) and processes (new technologies incremental improvements, integration between diverse technologies, energy saving, savings on materials used, improved process abilities, etc.). In its more advanced forms, cooperation may even include joint investment in research and development and in planning new products and technologies.

The case-studies show evidence of firms positioned in the various steps of the evolutionary cycle. The last one (checking and maintenance) is only being introduced in one of the cases. It is interesting to observe how in this stage competition between suppliers is restored to maintain high level performances inside the pool of suppliers. The partnership is so prevented from being affected by an opportunistic behaviour and the buyer can impose a competitive pressure to the sources. Thus, a dynamic multiple sourcing should characterize this stage of buyer-supplier relationship: the buyer examines which supply items should be supplyed by more than one source.

CONCLUSIONS

The study of the cases of some firms seeking to improve their relationships with suppliers has enabled us to highlight the existence of various stages in this process of evolution.

Hence, it has been possible to elaborate a model showing the characteristics of each stage, that can be used to place the firms studied in certain positions along a common line of evolution. The last step of the evolution cycle is particularly worth of study since it figures out also the ultimate pattern of relationship.

The study has shown that, even there are recognisable similarities within the supply policies firms adopt, their position within the evolutionary process is greatly affected by environmental and situational factors that require further in depth study.

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