

# Small Local Firms inside The Supply Chain: Challenges and Perspectives

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**ABSTRACT.** The authors provide the results of an empirical research carried out in north-east Italy and completed in 1992, which was aimed at investigating the rapport between large manufacturers operating on the multidomestic and global markets and the small local supplying concerns. This research identifies that the globalization process has had a strong impact in the relations with suppliers. The purchasing firms have adopted a particular approach when selecting the suppliers. This has involved widening their previous geographic areas of contact, even making use of foreign sources. Consequently, the local micro units either will become excluded from future business relations with the purchasing organizations, or will be relegated into lower levels of the supply chain. Today small and very small units working as suppliers with direct link with large-scale clients, face many challenges: they should now renew their know-how and skills, develop a new managerial and organizational sense, and recognise the need to invest in new forms other than machinery and processes. The empirical study clearly showed both the limits and the structural weakness of such small units and provided some indications for growth in their technical-productive potential.

## 1. Supply management in world class manufacturing environments: the role of small local subcontractors

The integration and globalization of markets is transforming the bases of competition between firms (Porter, 1985). The importance of strategies based on the maximization of a single performance is reduced, while a mix consisting of services of cost, quality and flexibility is acquiring greater prominence. In particular, time to market is becoming more and more important (Stalk and Hout, 1990).

In this competitive context, the importance of "manufacturing" is increasing. The idea of "world class manufacturing", meaning "a set of processes created to obtain competitive advantages at a world level" (Schonberger, 1986), shows up the more important and articulate role, compared with the past, covered by operations in the sphere of competitive strategies of the firm. The pursuit of World Class Manufacturing policies involves a profound evolution in the rapport with suppliers. The term "comakership" expresses the evolution taking place in the buyer-supplier relationship. The supplier takes on the role of co-protagonist and is equally responsible for competitiveness on the market: the suppliers condition the buyer in the determination of its competitive advantages (Womack, Jones and Roos, 1990).

The traditional supply — management involved negotiating on guaranteed minimum quality level, the supplies of single short term orders, the systematic testing of suppliers and the safety provisions.

A more advanced model of buyer-supplier relationship, according to the Total Quality Control type of approach, is characterized by long term contracts which are periodically revised; it consists of possible price oscillation depending on certain agreed criteria, self guaranteed quality, complete responsibility for the finished product, no acceptance check, direct supplies to the departments and so no reserve provisions, frequent supplies in small quantities with open orders, systematic improvement in the quality and prices, advice and training for suppliers. An advanced buyer-supplier relationship presupposes a cooperation in product/process engineering, common investments in technological achievements and a continuous exchange of information on processes and products (Hayes, Wheelwright and Clark, 1988).

Thus, the supply environment, in particular the

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area of subcontracting, is at present undergoing a period of renewed importance: the choice of externalization in the present competitive context is no longer contingent as in the past, but is the result of a precise strategic plan which guarantees to the supplier a preserved role within the buyer's extended and integrated production system (De Toni, Nassimbeni and Tonchia, 1993). The supplier, in this view, is no longer considered as a complement or as an appendix to the buyer's production structure, but as a protagonist, that is one who is part of the system. The competitive strength of the subcontractor becomes an added competitive strength for the purchaser (and vice versa) as they share, exchange and transmit knowledge and expertise; so the business of the supplying units and that of the purchaser becomes more closely entwined.

This evolution towards advanced buyer-supplier relationships is usually accompanied by a reduction in the number of the sources. In fact, the requirements for design, production and logistic interactions imposed by modern management and production systems are such as to convey the relational resources of the customer (and similarly of the supplier) into a restricted number of channels. Thus, the supplier selection process often leads to the establishment of distinct "classes" and different "tiers" of suppliers (Imrie and Morris, 1992). A pyramid structure of the pool of sources can be the result of such supplier rationalization process promoted by the client organization. At the first tiers, the qualifying elements of the suppliers are quality, level and extension of service, technological content and system integration capability. At the last levels, the cost tends to become top priority. The selection-tiering process seems to outline many risks for the small local supplying firms: their presence and location in the production chain of the purchasing firm depend on the value added and the technological and quality content incorporated in the goods supplied.

## 2. Objectives and methodology of research

With reference to the above themes the aims of the research were:

- to investigate in which way the integration and globalization of markets is changing the relation-

ship between large purchasing firms and small local supplying firms, defining for the latter the opportunities and disadvantages of the changes that are taking place;

- to verifying in particular a series of hypotheses inherent in the policy of World Class Manufacturing and of comakership followed by large firms operating on multidomestic and global markets and the reflection of these policies on the processes of technological innovation, organization and management of the small local subcontractors. The hypotheses which were to be verified are the following:
  1. Large purchasing firms are adopting a policy of partnership with suppliers.
  2. Small local suppliers are not taking the necessary action to conform with a policy of partnership with the purchaser.
  3. Large purchasing firms have worked out supply performance profiles to continue cooperations with the suppliers.
  4. Small subcontractors do not possess the necessary skills to reach the new performance profiles required by the purchasers.

Thus, the focus of this study was based on the direct business relationships existing between the large firm and the micro unit suppliers. This for the following reasons:

1. it appears of great importance to identify the variables which allow the continuation and development of direct relations between large firms and small and very small units, especially as this second category represent a vital part in the industrial life of our country;
2. in the geographical area under examination, it has been shown that the possibilities for the small units to set up an indirect link with the large client has been considerably reduced due to the shortage of medium scale concerns being prepared to take on a interconnecting-mediating role in the supply chain. Indeed, should a direct link be interrupted, it is very unlikely that small-scale concerns will join in with firms positioned at the intermediate level of the supply chain.

The research was carried out in north east Italy. The study was restricted to small firms with less than 15–20 employees. In the region considered the archipelago of small and very small industries



forms a fundamental connective tissue not only for the industrial system but also for the social one.

The empirical investigation was carried out by means of a questionnaire for a sample of firms, covering both purchasers and suppliers. In regard to the purchasers, five large firms working on the multidomestic and global markets were chosen as they represent a significant part of the industrial life of the region and belong to the traditional ambits of local supply. The research concerning the purchasing firms has been deliberately limited. In preference to a survey based on a large sample of heterogeneous units, the authors decided to concentrate on an in depth case-study of 5 large firms, and their supply system.

In comparison with these five large firms, 31 small and very small suppliers, as shown in Tables I and II were analysed.

TABLE I  
Large purchasing firms: the sample

Firm	Industry	Market	No. suppliers
1.	electromechanical	global	7
2.	mechanical	global	7
3.	electronics	global	5
4.	furniture	multidomestic	6
5.	furnishings	multidomestic	6

TABLE II  
Small local suppliers: the sample

Number firms	Industry	Average sales (ml \$)	Average number of employees
4	technical services	0,21	4
2	electronics	0,77	22
2	furniture	1,60	14
11	furnishings	0,74	11
11	mechanical	1,56	15
1	plastic	0,96	11
Averages of the sample		1,03	12,4

### 3. Results of the research

The processes of integration and of globalization are of concern to all the large purchasing firms

examined. Their influence on the business relations with the suppliers proved to be very strong; the purchasing companies, spurred by the high level of international competition, require to the supplying units a high performance level. Thus, their choice of suppliers is often shifted away from the local geographical base toward wider international frontiers. This process very rarely leads to a business partnership with the small local suppliers. For the small supplying units the future is not bright: some have already been excluded from the productive cycle of the large purchasing firms, or relegated to the lowest orders in the ranks of subcontractors.

On the basis of the qualitative-quantitative data obtained, the principle results of the investigation, hypothesis by hypothesis, are as follows.

1. The large purchasing firms are adopting a policy of partnership with suppliers.

In all five large purchasing firms analysed a process of rationalization and selection in the area of suppliers is underway. In some cases this has led to a drastic reduction in their number. Only on very rare occasions has this process resulted in the setting up of a business partnership.

For many large purchasing firms this latter still is a far-off stage to be examined more attentively in the future.

In the few cases in which it did occur, a very low number of supplying companies were involved, in particular those which supply materials/goods considered strategic. Another important fact which emerged was that when this policy of partnership was adopted, only large or medium sized suppliers (in the terms of absolute dimensions and exchange) were involved and vice versa small firms and in particular small local suppliers were passed over.

Figure 1 describes the case of a large client firm in the mechanical industry. During the 1980s this firm has reduced the pool of suppliers. This reduction especially affected the smallest concerns: the number of large sized supplier is even growing up.

The small local supply concerns seem to be confined to the so-called class of "normal suppliers"; when they are not, in fact, excluded altogether. The examples of relationships between large purchasing firms and suppliers can be divided

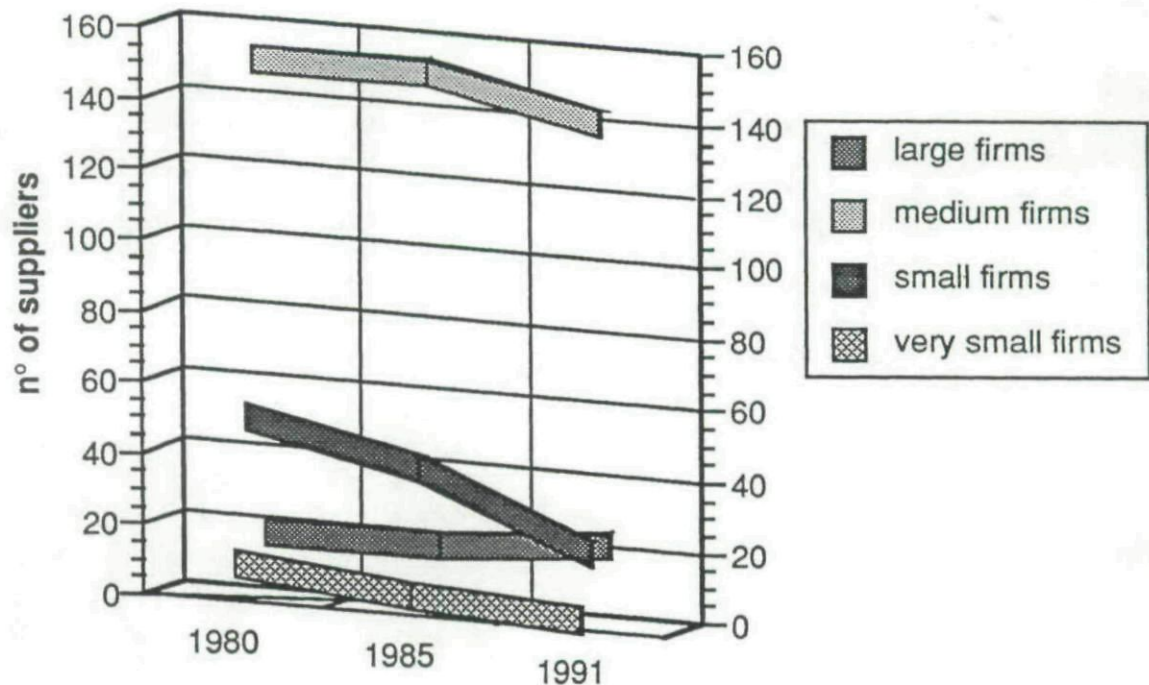


Fig. 1. Pool of suppliers for the large purchasing firm operating in the mechanical industry.

schematically, into three categories of business: traditional, operative integration and partnership; the so-called normal suppliers, integrated suppliers and partners fall into these three categories (Figure 2).

The possibility of any form of partnership only seems to concern the medium-large scale organizations, as only these appear capable of initiating any technological-qualitative improvements in the working process, as well as incorporating a high

CLASS OF SUPPLIERS	KIND OF RELATION	TYPICAL AREA OF INTERACTION	TYPICAL SIZE OF THE SUPPLIER
NORMAL	TRADITIONAL	PRODUCTION	HANDICRAFT AND SMALL SIZED FIRMS
INTEGRATED	OPERATIVE INTEGRATION	DESIGN PRODUCTION	SMALL AND MEDIUM SIZED FIRMS
PARTNERS	PARTNERSHIP	R&D PRODUCTION DESIGN	MEDIUM AND LARGE SIZED FIRMS

Fig. 2. Classes of suppliers, types of supplies, and typical areas of interaction.



value added in the good supplied (Bertodo, 1992; Lamming, 1992). The small organizations, and in particular those unable of offering specialist supplies, i.e. connected to precise skills, will become increasingly marginalized to traditional relations, and so will risk in time of descending further down the supply chain (De Toni, Nassimbeni and Tonchia, 1992).

The increase in incidence of purchases on the proceeds of sales, as noted in all the large firms examined, does not appear to give greater attention towards small and very small suppliers.

2. Small local suppliers are not taking the necessary action to conform with a policy of partnership with the purchaser.

With the exception of a few cases, small local suppliers work under conditions of subordination and have not and do not try to equip themselves to confront the new challenges. Very often their only request is the need for a dependable and constant customer but this does not presuppose a change in the relationship towards integration or at most of partnership with the purchasing firm.

This state of affairs arises especially because the small firms are not encouraged by the large purchasing companies. As was seen, in fact, the latter are concentrating on class A and B suppliers (partner and integrated suppliers, generally medium to large sized firms) neglecting those of class C (normal, typically small suppliers). If one considers the trends of the last few years, the result is that small units continue to figure among the suppliers of large companies, but their numbers are shrinking and their role is being reshaped.

The small supplying firms, according to how active a role they wish to take, can follow three different directions:

- that of an "operational" repositioning, in other words they act in the sphere of "operations", emerging from traditional ways of working or worse still in conditions of self-exploitation. This means the need for innovation: both technological and, above all, organizational-managerial (Just In Time, Total Quality Management). This remodelling of operations is a prerequisite for a more "integrated" and qualified rapport with the purchaser;
- a strategic repositioning in the "product" area, or

more precisely the supply of specialist products. A large number of firms in the sample employed working processes that were completely characterized by their low technological and quality matter. They, therefore, simply provide their productive capacity, rather than offering any specific or specialist know-how. It is, in fact, the absence of this condition that will not allow them any improved future prospects on the supply market. Thus, the continuation of such older operations in future times will simply generate uncertainties for the firms that insist on their use.

Figure 3 presents the existence of four strategic states or positions on the supply market. There are two distinct variables in this classification: the type of supply (capacity or specialist productivity) and the aim of the supply (process or product, i.e. the supply of a component or a sub-assembly). In general, the value added increases with the movement from a supply process to a supply product setting. In contrast, the possibilities for the client to internalize the production grows if the purchased good does not require specialist production skills, i.e. it is a specialist product. The most developed firms are attempting to move away from their traditional process/capacity and focussing all their efforts to the product/specialist sector, which yields greater earnings. The large sized purchaser intend to establish effective integratory contacts only with this kind of suppliers.

- a strategic repositioning in the market, or, in other words, independently of the "operative" position and with parity of the strategic position of the "product", to enlarge the marketing area which is generally restricted and limited to the immediate surrounding geographic territories. Of these three approaches this final one appears by far the most practical and the simplest to introduce. But in practice, such a decision would require a vast range of business skills which are rarely available amongst the smallest units. Furthermore, the national organizations which promote the activities of small industries are strongly in favour of this approach, as they provide initiatives, such as for subcontracting agencies which favour exchanges between purchasing companies and subcontractors on a wider base than the present local one.



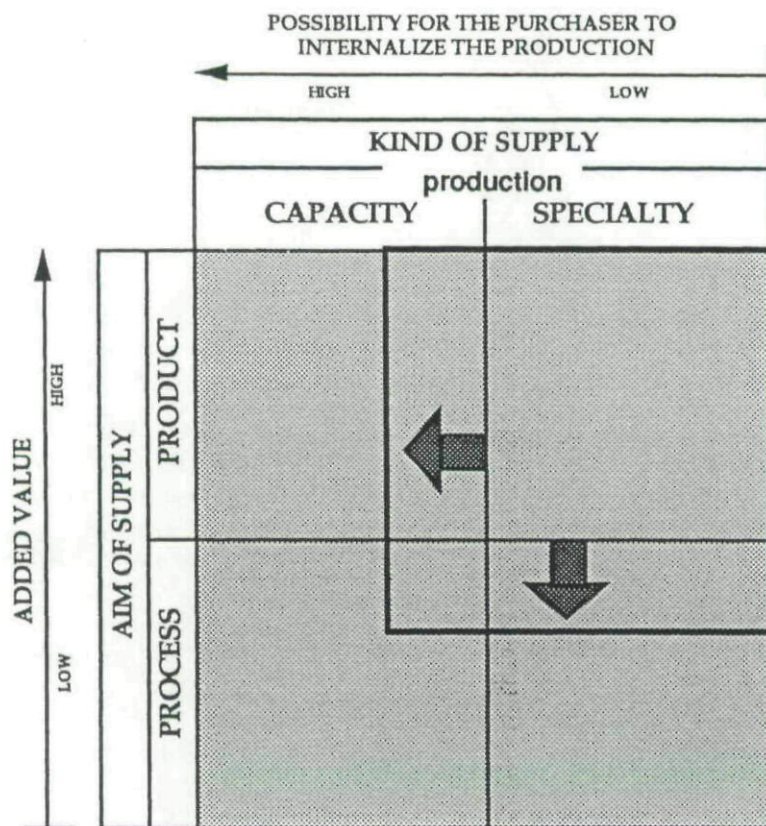


Fig. 3. Type and aim of supply required by the purchasing firms.

3. Large purchasing firms have worked out supply performance profiles to continue cooperations with the suppliers.

As already mentioned, large firms are becoming more directed towards subcontractors which are able to supply speciality products. Four out of the five interviewed in this survey are heading in this direction; the fifth (operating in the electronics industry) requires specialization in manufacturing (and not in the product).

The needs of the purchasing firms drive many subcontracting companies to an authentic strategic repositioning of their offer.

In addition, the purchasing firms increasingly require high level performance profile in terms of quality, promptness and punctuality, independent running and ability for technological response: in the final analysis they require services that can lead to a real repositioning of the "operations",

with the adoption of advanced form of technology and sophisticated organizational-managerial models (of Just In Time and Total Quality Management type).

Figure 4 indicates the main parameters which the buying firms use to select the suppliers. Each parameter was quantified by the interviewed managers on a scale of importance from 0—10. Moreover, the chart indicates how the managers viewed the performances of the small supplying firms in each of the individual parameters questioned.

The findings showed that "quality" proved to be the most important criteria used in the choice of a supplier. Thus, managers placed the quality variable at the top of their preferences over "price". Still above "price" came the "punctuality" of supplies (the more important, the more rigid the client's production plan), the "technological skills", and the independence to manage the complementary aspects of production process. This last

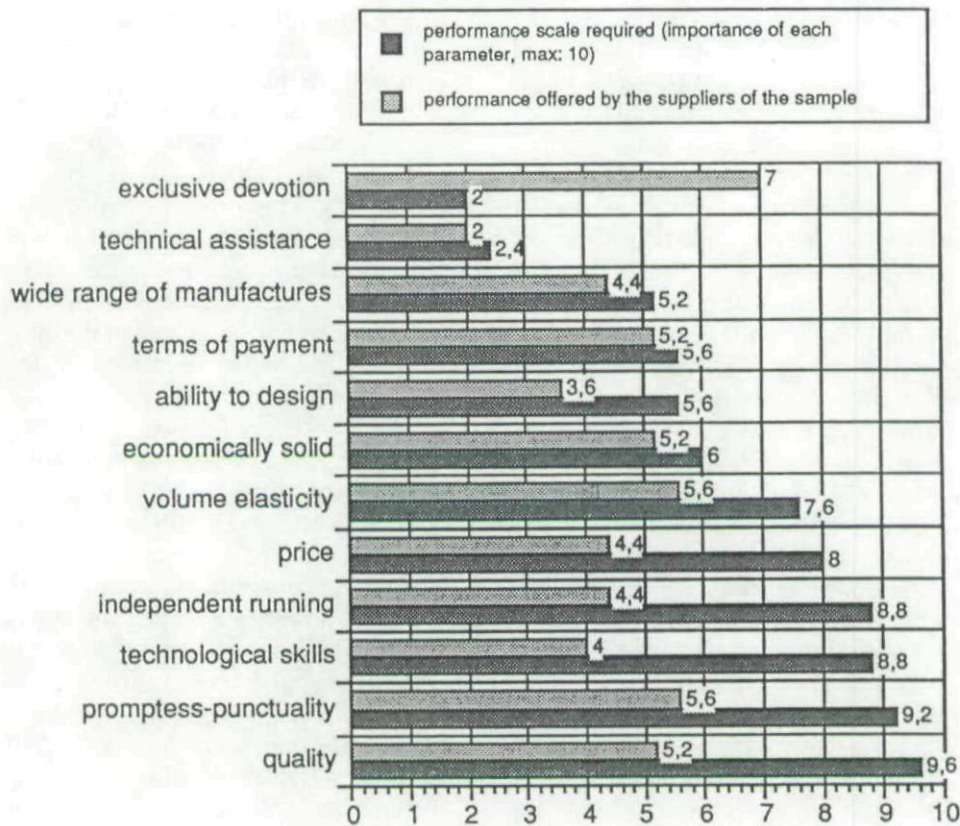


Fig. 4. Performance required by the buyers (dark bars — importance of each parameter: max = 10, min = 0) compared to the performances offered by the suppliers in the sample.

variable was particularly stressed as essential by purchasing firms when attempting to reduce and simplify the purchasing transactions, due to internal administrative complexities. The gap between the client's expected performance level and the real performance supplied seems markedly noticeable, especially in the area of "quality", "punctuality", and of "independent running".

The small suppliers can no longer solely count on the cost differences due, for example, to a simpler organization and a stricter control of the work force, but they must also take into account the new requirements in terms of quality and service.

In general, the pool of suppliers of the large companies seem to be more and more characterized by a technological and qualitative aspect which tends to increase, by significantly extending both their market and their growth. Though the

number of large firms surveyed does not permit excessive generalizations, two points emerge:

- the more "global" the market served by the purchasing company, the more exclusive is the choice of suppliers, and the less the number of small and very small subcontractors;
- the hypothesis of partnership concerns in particular supplying companies operating on at least a national market (often an international one).

4. Small subcontractors do not possess the necessary skills to reach the new performance profiles required by the purchasers

The investigation showed that the personnel of the small subcontracting companies neither possess the competence nor the necessary time for planning and running processes which would effectively obtain a higher level of service in terms



of cost, quality, flexibility, delivery times, etc. The choice of investment is decidedly in favour of machinery and equipments, which means in tangible fixed assets. Training periods take place often only in connection with the acquisition of new machinery or instrumentation, or occur very occasionally. As with training, recourse to quality certifying services is at an inadequate level in respect to the expectations of the purchasing companies and to market trends. Very small industries are nowadays required to evolve into more complex and better qualified models. The elements which distinguish the traditional approach are still valid: a highly specialised work force, an accurately aimed type of intervention and a fast mobility of intervention resulting from its small-size and consequently low inertia. These particularities have to be inserted into an organisational/managerial pattern that can foresee and coordinate activities in an rational and efficient way. Training, too often neglected in the sample group, becomes therefore a functional period in the firm's activity.

In a small industry in which the cultural openings, the sensitivity to organizational problems, the tension towards continuous improvements, the consciousness of strong points and of the precariousness of small size, all become constructive and central dimensions, methodologies such as JIT and TQM could be very effective, as could, in general, all possible interventions on the "operations". These methodologies and interventions are not linked to either a particular industry or to a specific set of firm dimensions; rather they appear to be bound to the mentality and approach of the users. The adoption of these techniques seems, in many cases, to be the natural reply to analogous implementations operated by the purchasing company. These implementations in turn only prove to be completely efficient if they involve all the actors in the same productive system.

#### **4. Concluding remarks**

The empirical research showed how work and production of little added value is an intrinsic part of the small and very small supplying units. This class of firms, which in general has been characterized by small capacity and low performance level, risks to disappear from the market or at best

to slide to a lower position in the chain of suppliers, losing the contract with a large firm which is always more interested in reducing the number of suppliers. A significant number of minor firms has the specialist know-how which may be translated into a service characterized by a high level of technology. This second class of small industries, in general consisting of specialist suppliers, is not able to make proper use of its strengths. In fact, its technological competence is not sufficiently supported by good managerial ability; thus, they continue to play a subordinate role to the large purchasing firms.

In regard to the former class of small industries, it is not in the interest of the large firms to initiate a more active rapport: the idea of short-term contract work and the multiple sourcing is pursued, as it is closer to the prevalent objective of minimizing the cost of subcontracting. In the latter case, it is the small industry claiming its original and technical contributions that must present itself in a new way to the large purchasing firm.

The gradual and progressive transformation in the relationship which links the small industry to the large purchasing industry — the evolution from a type of subordination towards a pattern of partnership — is only possible if the small firm makes sufficient improvements in performances. This requires their undertaking of specific innovations which will change the present managerial and productive models (little standardization, poor running procedures, a non-rational division of work, etc.) into more "industrial" ones, by adopting Just-In-Time and Total Quality Control logics and practices, which aim at the simplification and the increase in the quality of products / service and in the productive processes.

Because of the characteristics of the small local industries, this evolution seem to be only possible if carried out by competent outside personnel coordinated at a central level by associations of small industries.

In conclusion, the most important points arising from this research can be summarized as follows:

1. Large firms are gradually moving towards comakership systems. International competitiveness itself is pushing these firms towards a more participatory link with suppliers: cost, services, quality, response time to the market



are variables which are more and more correlated to the performance of the supply system.

2. This process especially involves suppliers of classes A and B of middle-large sized industries, operating on national and often in their turn international markets, which provide differentiated products or services, characterized by a high level of technical ability and quality.
3. The small industries remain outside this process: the performance levels and the type of product or service supplied are not such as to make them candidates for a greater amount of participation. The perspectives for these industries are:
  - the possibility of operative integration (or even partnership) for those that succeed in evolving to more "industrial" models. It is a difficult course of action as it spans changes which involve cultural, managerial, organizational and technical-productive progress.
  - further exclusion of the small industries from the supply market connected to the large purchasing firms. The risks of their expulsion from the supply chain or their relegation to even lower levels is outlined.

## Note

<sup>1</sup> On one hand, this is because there exists on the market an increasing amount of reliable standard components at an ever decreasing price, and on the other because, as 70% of the cost is due to the components, it is of prime importance for the firm to concentrate on the transformation process by looking for dependable specialized subcontractors that are capable of effectively improving the transformation process.

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