

DEVELOPMENT PATHS AND INTERNATIONALISATION OF LOCAL MANUFACTURING SYSTEMS: THE CASE OF THE ITALIAN CHAIR DISTRICT

A. F. De Toni, G. Nassimbeni, M. Sartor

Dipartimento di Ingegneria Elettrica, Gestionale e Meccanica
Università degli Studi di Udine

ABSTRACT

This present study focuses on one of the most important Italian local system: the chair district.

This district introduces particular reasons of interest. In the first place, it's characterised by more than 1200 companies and a annual production of more than 44 millions of chairs, that is the 80% of the Italian production. In the second place, this district is going through a phase of significant transformation induced by the necessity to achieve cost advantages and mix and volume flexibility.

On the base of an empirical research, the study analyses the evolution of the chair district and the strategic choices operated by the producers about the reconfiguration of the production and logistical network, the decentralization of production units, the internationalisation and externalisation of the phases of the processes, the diversification of supply and distribution channels.

Keywords: internationalisation, local manufacturing system, Italy

1. INTRODUCTION

Marshall (1920), as well know, was the first scholar to describe an industrial district and give birth to the related theory. He described the "industrial district" as a territorial concentration of many small enterprises, characterised by a strong tendency to production specialization, by a dense network of social and economic relations of competition and cooperation, by the facility and frequency of relations that allow a fast spreading of information and innovations. So industrial district created a new modality of industrialization which ideally contrasted the modality based on the big fordist enterprise. Industrial districts imposed also in the Italian economic outline as successful industrial development models, so that in many sectors, such as the textile and shoe one, this model led to position of world-wide leadership. Nevertheless, in the last years it emerged many

doubts about the real capacity of district model to cope with the changes in progress in the international competitive context. Technological transformations, those linked to the quality certification, those deriving from production reorganisation (just in time), are only some of the phenomena that induce the reorganisation of enterprise – district – externals system.

Therefore we evaluated the prospects of the industrial chair district, one of the most important districts in Italy, characterised by more than 1200 companies and an annual production of more than 44 millions of chairs, that is, the 80% of the Italian production, the 50% of European production and the 30% of the world-wide production (Promosedia, 2003).

What characterizes this district of Friuli (and generally the Italian districts of wood and furniture sector) is the presence of a very advance level of vertical disintegration of productive process. The companies with an integrated production cycle are an exception. The standard is represented by the vertical division of work among enterprises that specialize in distinct phases of the production chain.

The vertical disintegration of production process allowed to gain technological scale economies in the single phases of production line and favours specialization, leading to an increase in production levels of enterprises.

Starting from an empirical research, this study aimed to analyse the fast evolution of the district promoted by factors as market globalisation, high quality and reliability standards compelled by the present competitive scenery, the development of ICT. The attention focused particularly to the reconfiguration of the production and logistical network, the choice for the decentralization of production units, the internationalisation and externalisation of single phases or entire processes, the decisions about the diversification of supply and distribution channels.

The survey developed through the selection of seven case studies that represent the district situation. Through interviews the information about the subjects of the study were collected.

Starting from an analysis of the economic and social background of the chair district and passing through a synthesis of the information gathered from the analysis of the single case studies, this document ends with the description of a model able to describe the district configuration and trend.

2. BACKGROUND

The debate regarding local manufacturing systems, industrial districts and networks of small firms was topical during the 1980s, when Priore and Sabel (1984) gave the first contribution to these studies, showing that a strong inter-firm division of labour among cluster of small firms, connected by horizontal and vertical relationship, can lead to a great collective efficiency.

From then on, Priore and Sabel's view has been developed by a number of others researchers, most of them having an economic background. Only rarely have OM scholars analysed the problematic connected with industrial districts. This fact is somewhat

surprising: industrial districts are specific manufacturing systems, i.e., systems characterized by a particular combination of manufacturing tasks and choices.

In a previous work (Nassimbeni, 2003) we have tried to characterise industrial districts and the flexible specialisation model emphasising the OM aspects. Two assumptions underlie the flexible specialisation model. First, the division of labour (specialisation) and the resulting focalisation on a particular step in the process leads to economies of experience and scale in each step, as well as the various forms of flexibility previously introduced. Second, local sourcing is preferable to in-sourcing or extra-local outsourcing, since firms benefit from external economies (the presence of agencies that offer specific services, a specialised labour market, support infrastructures, lower transport cost, greater facilities for interaction thanks to geographic proximity and common cultural identities, etc.). According to the flexible specialisation model, the combined effect of specialisation and localisation advantages justify the development of local industries.

Global economy questions these assumptions, at least in some districts. As far as the manufacturing task is concerned, end-producers localised in developing countries can offer a better flexibility/cost ratio owing to less restrictive environmental regulations, lower site costs, accessibility to certain natural resources, and lower wages. Leading firms of Western districts may be solicited to differentiate their offer in terms of quality, innovation, and delivery/responsiveness. However, as already observed, local systems have frequently shown marked weaknesses in regard to these capabilities. For example, the dispersion of added value among a number of (mostly) small firms can lengthen the time to market and limit product or process innovation, especially when innovation spans several production stages (Robertson and Langlois, 1995). Sometimes the generally small-sized units of a local system do not possess adequate financial and managerial resources to introduce important innovations. As a result leading firms may prefer internalisation of production or even extra-local sourcing. Prasad and Babbar (2000) recently published a review of articles about facility location decisions and global sourcing. They observe that firms increasingly strive to gain competitive advantage by sourcing overseas. Such undertakings have been reported extensively in global investigations of purchasing patterns. Global sourcing can benefit firms by improving price, quality, and innovation. In addition, world-wide diffusion of modern information and communication technologies makes firms less dependent on the local context and encourages them to extend their sourcing areas.

Therefore, globalisation (of the markets, competition, work distribution, and informative networks) urges district enterprises to pass beyond the local borders, recommending collaboration over an extended geographical area and modifying the district values and rules.

3. OBJECTIVES

This study focuses on one of the most important local systems in Italy, i.e. the chair district.

30% of the world-wide production of chairs is concentrated in an area of approximately 100 km² called "The chair triangle" (Commerce Chamber, Udine, 2001). The total number of chairs exceeds 44 million pieces per year (80% of the Italian, 50% of the European

production, 30% of the world-wide production). 1200 enterprises and more than 12000 employees operate here (Promosedia, 2003).

This district is passing through a phase of transformation. Final market requires the producers to shorten product development time, produce new models faster and more frequently, and a better quality/price ratio. In addition, new challenges and opportunities arise in the global supply market: the production of chair it is a labour-intensive activity, where producers localised in some regions (East Europe or South-east Asia) exhibits cost structures much more favourable than western firms. These transformations are modifying the sub-contracting system of the district, suggesting to the end-producers the redefinition of the internalisation/externalisation choices and the reconfiguration of the productive and logistic net on an international base.

The objectives of this study therefore are the following:

- to analyse the factors that influenced and characterised the process of production internationalisation in the chair district;
- to determine the path of international growth followed by the enterprises of the district, understanding how the first international experience was born, developed, and what is the present trend;
- to evaluate how internationalisation could have led to a reconfiguration of the production and logistical network, what have been the changes in the supply and distribution channels, what activities could have been decentralised across the border.

4. METHODOLOGY

A multiple case-study approach has been selected. This approach is appropriate when a detailed analysis is required of a phenomenon that can be described mostly in qualitative terms. What is more, a standard survey instrument was not suitable for most of the data considered (e.g. product, market, and district evolution, buyers' production and sourcing policies).

The research project was developed along these phases:

1. Analysis of literature, with particular reference to those related with the district and supplying section;
2. Singling out a sample of seven client enterprises, chosen on the base of the peculiarity of the entrepreneurial keys undertaken, the strategic evolution paths chosen, as well as the significance for sales and market presence;
3. Drawing up of to check list;
4. Selection of a sample of end-producers, representative of the populations in terms of sales volume, kind of producer, competitive positioning;
5. Direct interviews to entrepreneurs or purchasing managers;
6. Data entry and analysis;
7. Development of a theoretic model.

Tab.1 : Average data of the sample enterprises

Data of the sample enterprises	Average
Year of establishment	1963
Total employees	215
Sales 1999 (billions)	98
Italy	14,17%
Foreign countries	85,83%

4. RESULTS

The enterprises of the chair district, led by market globalization, high quality standards committed by the present competitive scenery, recorded great impulses towards change, that led to the reorganization of production and logistical network, to choices for decentralization, diversification of supply and distribution channels, and more generally to modifications in the relations of the companies with foreign countries.

The case studies proposed aimed to deepen the aforementioned aspects of research. Moreover they aimed to highlight contingent efficiencies and inefficiencies of the evolution framework described.

Distribution. During the last years competition focus has been moving from production to commercial area, where greater profit margins are gained. It is more and more important to control the channels to enter outlet markets and to provide customers with adequate services.

From the analysis of the data related to the characterisation of the turnover of the sample companies (Tab.1), it can be observed how the market share carried out abroad always exceeds 50% and in three cases is near to the 100% of the entire production. This first result highlight the strong tendency of the district towards export.

In order to cope with the geographical diversification of markets, the strategies adopted have not been univocal: almost all persons interviewed focused on a wide range of products and models, but while some people concentrate on a direct control of outlet markets by commercial associated companies (ID Export), some other (Rover plus e Arbor) drew up a medium-long term contract with foreign distributors, some other (Calligaris) opened a relevant number of sales outlets (more or less 6000) on the national territory.

The empirical survey highlights the appearance of big distribution chains, which is quite a new phenomenon in Italy and particularly in the district. From the interviews it comes out how these chains directly get in touch with small and medium subsuppliers, filling their production capacity, to produce finished goods or parts of product, often designed by themselves. Buyers deal mainly with the aspects of commercialization (marketing and distribution), allowing small and medium producers to enter final markets, otherwise inaccessible for them. It seems that this phenomenon concerns mainly medium and

medium-low market sector and does not considerably affect niche productions and high market sector.

- *Supplying.* Nowadays district models is more and more facing the problem of the quality control of components and finished products. From a heavy turning to supplying, the attention is focusing on a relevant selection and rationalization of suppliers. The necessity of a greater control on production cycle is leading some enterprises to vertical integration in order to maintain the control inside and to allow a more direct control on the several phases.

Anyway, the turning to external production capacity is still considerable. The number of suppliers is determined by the development path that the single enterprises followed: some companies (ID Export, Calligaris, Lisa) ordered outside a considerable part of production phases and developed only some activities of value chain; some others (Crabo Group, Rover Plus, Arbor) kept inside almost all the cycle phases, considering convenient a direct control to guarantee the quality standards required by their market sector.

Differently from the past, customers generally prefer to rely on a small and selected group of suppliers, to establish a steady and reliable relation. Supplying basin is usually the local one (Tab.3). All the people interviewed confirmed that as far as competence and quality level, local suppliers are a complete guarantee. Nevertheless it is increasing the turning to supply from East European countries, to which the manufacturing with lower added value and higher manpower content is ordered.

Tab.3 : Geographical distribution of suppliers

Area	Average
County	68%
Region	13%
Rest of Italy	4%
Foreign countries	15%

Therefore we analysed the importance of the several standards for the choice of suppliers (Tab.4). For this reason we used Likert type perceptive measures with scores from 1 (low importance) to 5 (high importance).

It seems that clients favour the suppliers that guarantee high performances as far as punctuality, timeliness of delivery and product quality or the manufacturing carried out. Factors such as terms of payments, exclusive dedication and capacity of offer personalization are less important. The "geographical proximity" factor has not received high scores. This fact demonstrates that market globalization leads clients to look for alternative solutions to local ones.

Tab.4 : Importance of discriminatory parameters for the choice of suppliers

STANDARDS FOR THE CHOICE OF SUPPLIERS	AVERAGE IMPORTANCE	STANDARDS FOR THE CHOICE OF SUPPLIERS	AVERAGE IMPORTANCE
Specialization on some manufacturing	4,6	Level of technical and productive investments	3,3
Defectiveness rate	4,5	Availability to execute urgent orders	3,2
Punctuality and timeliness in delivery	4,3	Economical and financial steadiness and reliability	3,2
Relations consolidated over time	4,3	Geographical proximity	2,8
Innovation capacity of processes and products	4,2	Market share	2,6
Price	3,6	Customization capabilities	2,6
Volume flexibility (minimal production lots)	3,6	Exclusivity	2,5
Wide range of manufacturing	3,5	Quality certification	2,3
Autonomy in managing complementary aspects	3,5	Terms for payment	2,3

6. STRUCTURAL ALTERNATIVES AND COMPETITIVE POSITIONING

Nowadays the chair district, born in the 1950's as a totality of small and medium artisan enterprises, then developed as an actual model of integrated local network, has to undergone deep changes.

The district enterprises have to undertake a strategic reconfiguration able to guarantee a sufficient flexibility and competitiveness, in order to cope with the change of competitive challenge, the acceleration of process and product innovation, and the changes that affect market, as far as both the demand and the offer.

District enterprises are going to adopt new policies and behaviours, not foreseen by the common district model.

Structural alternative, that district enterprises can consider, are the following: growth through external rather than internal lines, local production sphere rather than international (Fig.1).

If the production sphere is the local one, the reference models are basically two:

- *integrated local network*, that is, the usual district model, where the client can rely on a relevant number of supplying enterprises, specialised in a single production phase, to establish stable commercial relations;
- *integrated local enterprise*, where the enterprise manages to cover all the phases of the production cycle, maintaining a strong localization in the district.

the competitive advantage of the most dynamic enterprises is based on factors such as product quality, customer service, the trend to product innovation, and the offer of assortment. Therefore the enterprise that controls final market is led to select and qualify again the network of district suppliers, to promote the competences and the capacities to participate in innovation projects, to develop basically stable relations. In this way the selection takes place in the first phases of the relations because the eventual replacement of supplier are considered as additional costs by the client if take place later.

Therefore the structure of the competitive advantages on which it is based the development of the chair district can be summarized in two main sources: the capacity of the enterprise to operate with quite low production costs; the capacity to adapt elastically and flexibly to the quantitative and qualitative variations of demand. The factors that allowed to reach such a competitive advantage are:

- a) a solid knowledge of process technology;
- b) a good know-how of product;
- c) the flexible use of manpower, therefore able to increase both the cost and flexibility advantage;
- d) the widespread practices of production decentralization.

The synergic development of each of these factors allowed the chair district to gain a world-wide leadership position.

REFERENCES

- Langlois NR. , Robertson PL (1995). *Firms, Markets, and Economic Change: A Dynamic Theory of Business Institutions*, Routledge, London
- Langlois NR., Foss NJ. (1999). *Capabilities and governance : the rebirth of production in theory of economic organization*, *Kyklos* 52 : 201-218
- Marshall A. (1920), *Principles of economics*, Macmillan, Basingstoke
- Prasad, S., Babbar, S., Tata, J (2000) *An Empirical Assessment of Instructional and Individual Research Productivity in International Operations Management*. *International Journal of Operations and Production Management*, vol. 20(12), 1392-1410.
- Prasad, S., Babbar, S. (2000) *International Operations Management Research: Classification, Analysis, and Agenda*. *Journal of Operations Management*, vol. 18(2), 207-247.
- Prasad, S., Babbar, S., Calis, (2000) *International Operations Management (IOM) and OM Research: Comparative Analysis*. *Omega*, vol. 28(1), 97-110.
- Priore M., Sabel C. (1984), *The second industrial divide*, New York, Basic Books