European Journal of Social Sciences
ISSN 1450-2267 Vol., pp. 107-114
http://www.europeanjournalofsocialsciences.com

Modern Forms of Business Cooperation: Clusters and Networks Overview

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Abstract

In this study we deliver an overview of clusters model development in leading world economies and their historical path. It was demonstrated that the existence of a strong agglomeration of firms is not the only component of the region: beyond the economic dimension, there are factors of social and cultural history which affect the community of people, values, the culture, the knowledge accumulated in the territory.

The clusters' enterprises would benefit from the other side, the elements of an economic nature such as industrial specialization, flexibility and the division of labor and the other, social and cultural integration that takes place within the community of businesses and individuals which constitute the cluster area.

Keywords: Clusters, Networks, Regional Models.

1. Introduction

Cluster (industrial district) is a territory with a high concentration of small and medium-sized enterprises with high production specialization, generally characterized by strong interdependence of their production cycles and strongly integrated with the local socio-economic environment. The competitiveness of industrial districts derives from the particularity of productive organization in the form of flexible specialization for which the production cycle is divided into different phases and each firm is specialized in the execution of a particular stage of production which ensures lower costs, flexibility and innovation [1].

As far as the integration with the social environment in the clusters it is stated that the community and businesses tend to interpenetrate one another. In the districts we find what Marshall had defined "industrial atmosphere" [2] which actually stand for the sharing of languages, customs, culture and knowledge that facilitates cooperation and integration between different enterprises. The district benefits from a sort of "social capital" which consists of relations of trust, personal relationships and an established business. This context also supplies a strong entrepreneurial spirit that frequently arise new companies through spin-off process: very often some employees decide to leave the business of origin to launch new enterprises.

Another particular aspect of clusters is the combination of competition and collaboration between companies. Within the district competition between companies is very strong and selects the best and most efficient companies. But at the same time, companies inside the industrial districts often work together on common projects such as initiatives to promote abroad the products of the district, consortia to manage environmental and informatics problems, the purchase of electric energy etc. This mode of organization of the production allowed achieving advantages in terms of reduction of

industrial and transaction costs by means of access to external economies of cluster and permitted small businesses to compensate the lack of internal economies of scale achievable only with the increase of production and, therefore, the size of business. Moreover, the compactness of the relationships between the individual companies involved advantages in terms of greater security of commercial credit, the media and the use of communication by sea and by road, rail and telegraph, by mail and by printing [1], [3-4].

Therefore, achieving economies in production is possible not only for large companies, but also for small and medium size if that production is organized locally and businesses interact with the environment and social production in which they operate.

2. Market and Hierarchy

From the economic point of view, according to the approach of transaction cost theory of Williamson [5-6], the two fundamental ways of organizing economic activities are the market and hierarchy. The form of production coordination according to market model is achieved when the processes are broken down into individual steps carried out by independent firms that interact with each other through exchange transactions. Price formation, through the dynamics of supply and demand, ensures coordination between the parties. However, markets often do not work perfectly. Asymmetric information, uncertainty, high asset specificity and exchanged risk of opportunistic behavior are factors that determine an increase in transaction costs and force businesses to make use of hierarchy in the market place as a mode of organization of economic activity.

In this context, the cluster is a valid alternative to an organizational hierarchy and the market that can achieve the benefits of both of them. On the one hand, it allows reaching high volumes that allow you to benefit from economies of scale collective effect typical of the «hierarchy», and second, preserving small business district, continuing to benefit from the advantages of flexibility of its market form.

Moreover, the particular "industrial atmosphere" of the district and the high level of trust and “social capital” reduce the risk of opportunistic behavior.

Researches of clusters have shown that the existence of a strong agglomeration of firms is not the only component of the district [7-10]: beyond the economic dimension, there are factors of social and cultural history which affect the community of people, values, the culture, the knowledge accumulated in the territory. The clusters’ enterprises would benefit from the other side, the elements of an economic nature such as industrial specialization, flexibility and the division of labor and the other, social and cultural integration that takes place within the community of businesses and individuals which constitute the district area. The sharing of historically established values, relations of friendship and kinship explain the ability of clusters to bring down transaction costs and, in general, problems related to the uncertainty and the risk of opportunistic behavior that characterize the use of the market as a mechanism for governance. In this perspective, the cluster is not only a population of firms, but a social environment, a community of people who share culture, history, language and knowledge, values and rules of behavior that determine trust and social cohesion. In this context, the industrial district is configured as a network based on trust and social capital of the territory, thanks to shared rules and consolidated, developed intense relationships that facilitate the spread of knowledge.

While the economic studies were focused on the development of the cluster as a whole, the business perspective, from the consideration that district firms can be characterized by trajectories of development and entrepreneurial formulas heterogeneous, studies have focused on the analysis of individual firms. In this perspective the following classification of cluster firms is important and it shows a function of autonomy and strategic development skills:

- Guide enterprises: act as an interface between the market and clusters’ enterprises. They have high ability to operate independently on the market, having developed a complete set of skills, which include both business and managing relationships with the market, because of the capacity for innovation. These companies are able to perform all phases of the production process and have strong autonomy in the development of strategic choices;

- Specialized firms: they are distinguished for specific expertise in the production area and possess a high level of know-how regarding technology, process management and innovation inherent in the production phase of their competence. These firms are focused on a few activities, belonging to the stage on which it based its path of specialization;
- Towed enterprises: firms that have drawn very specific skills that oversee the production phase but, unlike the specialized firms, they do not have significant ability in innovative design skills;
- Blocked companies: work primarily as subcontractors of a few local clients, which provide their productive capacity. They are small and very small firms unable to stay on the market independently and whose survival is closely tied to the guide enterprise.

In the business perspective it is also evident that the presence of successful clusters and clusters in crisis does not depend on the geographical location of the sectors they belong, but by realized strategic decisions. In particular, among the causes of the crisis of some districts we can see [1, 11]:

- The inability to control the markets;
- Low levels of investment in product and process innovation;
- Difficulties related to generation exchange;
- The shortage of specialized skills;
- Lack of cooperation between companies.

The presence of these factors cancels the benefits of agglomeration determining in local businesses of the cluster worse performances than those of firms that operate autonomously in the same sectors.

On the contrary, in case of successful clusters, the enterprises adopt strategies aimed to:

- Promote the cooperation with other companies;
- Formulate and implement product and process innovations by investing in research and development;
- Realize joint efforts in marketing and staff training;
- Strengthen the company's equity and increasing the size.

In summary, the business perspective understanding of the evolutionary dynamics of the cluster depends on the analysis of the behavior of individual units, which represents the real part of the explanatory capacity of growth of the entire aggregate cluster.

3. Networks

Besides, in the information age, firms are increasingly organizing their activities through networks [12]. The business environment is seen more like a “rain forest” than a “jungle” so that new paradigms are emerging in management [13-15] and accounting literature [16-18]. In many countries several institutions have encouraged the implementation of strategic alliances to stimulate the national and regional development [19-20].

The concept of network emerging from this framework could be interpreted as consistent with the management literature focusing on “strategic network”, considered as an intentional, long-term alliance enabling different companies to acquire or defend the competitive advantage against competitors outside the network. Despite the importance of collaborative strategic networks and their business planning and accounting processes, there has been little empirical research specifically related to these topics. These studies are often focused on a single case-study, hence denying the possibility to compare the different managerial behaviors applied to implement collaborative strategies. The intent is to encourage a dialogue and possible partnership between university, government, business networks and practitioners in order to provide assistance for the improvement of the legal framework and the implementation of strategic networks.

The subject of the strategic analysis and management accounting of networks has come to the attention of academics and practitioners for the last decades [14-18] in a broader framework of theoretical developments. The emergence of the global knowledge economy [19-23] is creating innovative systems and models of work, having a deep impact on business environment and organizational interdependencies. To define the current business landscape, some authors [24] suggest the metaphor of the "rainforest", indicating that one of its basic features is the intricate interdependency among companies that requires an alternative framework to be studied. A network can be defined as "a set of business entities, legally independent, reciprocally committed to implement a deliberate and finalized cooperation strategy, leveraging the technical and economical complementariness' in achieving joint economic objectives, which indirectly benefit the individual businesses" [25].

Within economics there have been several approaches to the study of networks and alliances, mainly including transaction cost economics, strategic management and institutional perspective. Transaction cost economists [26] have argued that networks (as well as clusters, see above) are hybrid forms of organization between markets and hierarchy and that they occur when transaction costs associated with a specific exchange are too high for an arm's length market exchange but not high enough to mandate vertical integration [27]. In transaction cost economic literature various roles have been indentified for management accounting in inter-firm settings that relates to specific accounting techniques and different uses of accounting information.

These roles include the use of financial and non-financial information in the "make or buy or ally" decisions, in the selection of a potential partner, during the management of cooperation and in the monitoring and evaluation of collaborations activities [28-31]. These studies often examined inter-firm accounting in conjunction with the issue of motivation and incentives, underscoring the importance of studying accounting in a broader control context [31]. Strategic management literature recognizes business relationships as another type of resource that a company can use in the strategic game. The opportunity to mobilize others as "partners" has increasingly become an emergent issue in the strategic management literature.

From a resource-based perspective the importance of business relationship is emphasized by the idea that a firm's critical resources may span the boundaries of the firms itself and be embedded in inter-firm resources and routines. Similarly, [32] argue that the resources that a firm uses reside both within the firm (firm-specific resources) and in other organizations (firm-addressable resources). It is claimed that a firm's network of business partners should be considered as an inimitable resource itself and as a means by which to assess others' inimitable resources. In this stream of research two concepts clearly emerge: on the one hand, the "strategic alliances", defined as "any voluntary and enduring arrangements between two or more firms involving the exchange, sharing, or co-development of products, technologies, or services" and on the other hand the "strategic network" as "long-term, purposeful arrangements among distinct but related for profit organizations that allow those companies in them to gain or sustain competitive advantage vis-à-vis their competitors outside the networks" [13, 15].

In studies influenced by institutional theory, collaborations and networks encompass a broad range of inter-organizational relationships [33]. Some authors [34] argued that institutions supply the rules and resources which collaboration is built upon. Thus, to fully understand and explore the dynamics of collaboration and networks, it is crucial to examine the institutionalized patterns of rules and routines, emphasizing the objective and the external aspects of the institutional environment.

In this perspective, cost management and other accounting routines could become part of the broader institutional context which helps to give order to the complexity created by the institutional pressures that influence nature and character of inter-organizational relationships. In [35] the research explores the evolutionary process through which management accounting and control practice develop, considering the interaction between micro and meso institutions within the organization and the broader macro and meta institutions of the institutional field in which the relationship is set. According to [35] it is important to recognize the meta and macro institutions when studying inter-organizational relationships in different countries: economies with different socio-legal systems are likely to have

substantial different approaches to accounting for inter-organizational relationships – influenced in large part by their institutional environments.

It is widely recognized that a critical factor influencing the implementation of collaborative strategies (realized in clusters, networks, alliances and other forms) is the policy makers orientation: the creation and development of networks is indicated as the right strategy needed to adapt the business structure to the main features of the knowledge economy, especially in the economic contexts characterized by the presence of SMEs [36-37] and entrepreneurial businesses, based on the valuable benefits generated in terms of learning, the development of entrepreneurial processes, innovation and competitive advantage, value creation, growth and survival, network strategy is seen as the route to stimulate business development and economic growth at international, national and regional levels [19-20].

Adopting a comparative international perspective on regional supporting programs some authors [35] argued that successful networking development is characterized by an engineered process. This process is started by a trigger entity (government agencies, consultants, specific companies, entrepreneurial individuals, banks, universities, other actors) that actively strives to create some sort of cooperation among a group of actors as it is able to plan and develop interdependencies and create interactions and cooperation that are difficult for the actors themselves to recognize. The opposite of an engineered process is an emergent one, in which no intervention by a trigger entity is required and the member selection is self-regulated.

According to this framework, strategic networks are the result of an engineered process, where the working arrangements are specified in written contracts and fulfilled in a formal organization, goals are planned and specified in a predetermined time horizon, the cooperation is based on "network capital" rooted in a business and economic rationality and focused on investing in relationships as a means to increase business performances.

The issue of performance measurement and representation of strategic networks can benefit from the new paradigms emerged in management and accounting literature from the mid-1990s, when many important scholars [16-18] emphasized the importance of extending the domain of accounting across the traditional boundaries and called for a need to encourage the research accounting in inter-organizational settings.

Inside these different streams international literature demonstrates that a broad range of special accounting techniques, methods and control mechanisms have been developed with the purpose of handling accounting problems related to business relationships: open book accounting, target costing, value chain accounting, quality plans, programs of innovations, alliance boards, joint task groups, tournament procedures, supplier certifications, non-financial measures and risk rewards schemes and the specific application of balanced scorecard. These methods influence the motivation and incentives of strategic partners and should be analyzed.

4. Regional Experience

In many countries several institutions have encouraged the implementation of strategic alliances to stimulate the national and regional development, providing financial support to companies willing to cooperate and set up a network. These measures tend to define an institutional framework able to influence the process of network formation and the role of accounting on inter-organizational settings. Among European countries, the recent initiative undertaken by the Italian government represents the first case of a comprehensive approach implemented to this purpose, by defining a new legal framework to formalize the alliances (the enterprises' network "agreement or contract") and providing a scheme of tax incentives. In a general perspective the Italian case allows thus to understand how the strategic networks are formed and work, and the extent to which they can be influenced by the institutional context. According to law the contract is the legal tool needed to formalize strategic alliances among entrepreneurs whose "aim is to enhance, on a individual or collective basis, their innovation capabilities and their competitiveness on the market" undertaking the commitment to: i) "cooperate in

different ways on a specific business related to the management of their own enterprises (or); ii) sharing information and services of an industrial, commercial, technical or technological kind (or); ii) managing in a collaborative way one or more activities included in the mission statement of the companies".

From an organizational perspective the contract can be implemented for a wide variety of collaborations, both in terms of vertical alliance - in the form of supply chain among companies that operate in the same sector at different stages of production, and horizontal alliance - with competitors sharing some special projects of innovation and strategic development. The last strategic option can be useful especially for SMEs that, though competing in their local markets, may form special alliances to reach wider markets or implement internationalization project. However, even on the structural perspective, the contract does not provide size limits and can be signed by SME's or large companies and be utilized to set up collaboration among partners with homogeneous or heterogeneous dimensions. The support measure consists in a tax deferral through which a part of taxable revenue - targeted by participating companies for achieving the purpose of the contract and put in a specific reserve - will be excluded from the calculation of taxable income, for the duration of the contract.

Such benefit is temporary, given that the money put aside for the participation to the network will be included in the tax base once the contract is fulfilled. The contract has to be drawn according to a formal procedure with a notary, requiring an official registration with the competent Chamber of Commerce where the companies reside, and it must indicate:

1. References of partners;
2. Strategic objectives;
3. Performance measurement criteria to assess the progress towards the achievement of strategic goals;
4. Network action plan;
5. Duration of the agreement;
6. Specific endowment to manage cooperation activity.

Assessing this regulatory discipline in the light of the theoretical framework, the kind of collaborative strategy defined by law is consistent with the concept suggested by strategic management literature focusing on "strategic network" [13], considered as an intentional, long-term alliance enabling different companies to acquire or defend the competitive advantage against competitors outside the network.

The requirement of the explicit elaboration of the "strategic objectives" and the "network action plan" implies an engineered process of network set-up and emphasizes the role of a formalized strategic planning process, ensuring higher level of efficiency and stability. On the other hand, the adoption of "agreements" to formalize networks and strategic alliances, can entail lower levels of trust and control and a risk of maintaining too much flexibility with a negative impact on goal setting and performance control.

Even if no mandatory rules are established by law with reference to management accounting tools or financial reports, the need to indicate the shared performance measurement criteria to assess the fulfillment of strategic objectives raises important issues on management control and accounting techniques for internal and external needs.

5. Conclusions

In conclusion, the strategic context of the selected agreements is characterized by an "emergent" rather than "engineered" process with negative impacts on the quality of business planning which tends to be less structured when there is not a "triggers entity" or the reference to an inspiring model of business interaction. The elements of business planning framework, even the mandatory ones ("strategic objectives" and "network action plans") present on average a poor level of elaboration, containing general intentions and planned actions directed mainly on the internal processes and resources, without a clear vision of desired strategic positioning. Considering the institutional framework in which the

agreement has been introduced, the above characteristics can be related to those networks that have been implemented mainly to exploit the tax benefits and the external incentives, without elaborating an effective business planning process.

However, important cases demonstrate the significant link between "agreement" and strategic planning process. The contracts show that the business plan is considered as a central management procedure to support the collaborative strategy and the exploitation of synergies. Other cases are representative of a clear definition of strategic goals, strategic objectives and a coherent correlation between target setting and performance measurement. Different researches [30, 34] demonstrated that the network contract despite being a legal tool elaborated in a formal setting is strongly influenced by the quality of business planning. The official base of the document and the mandatory nature of some specific elements require a good strategic planning outcome that can communicate to external stakeholders a valuable project of collaboration in order to give value to the network and to the single enterprises involved, though respecting the appropriate level of confidentiality.

Beyond the issues of formality and confidentiality, the results show that the problem seems not to reside on formal or informal business planning procedure, but on the lack of strategic thinking, a weakness that the management literature considers even worst. The low development of strategic planning is accompanied by a limited mention of performance measurement and management control procedures.

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