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Local Networks to Compete in the Global Era. The Italian SMEs Experience

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The Italian SMEs Experience

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Local Networks to Compete in the Global Era. The Italian SMEs Experience

Summary

This study is concerned with the factors that influence the cooperation among cluster-based firms. Theorists have consistently demonstrated the role and importance of economic externalities, such as knowledge spillovers, within industrial clusters. Less attention has been paid to the investigation of social based externalities, though it has been suggested that these may also accrue from geographical agglomeration. This study explores the development of cooperation between firms operating in a single industry sector and in close proximity. The results suggest that social networking has a greater influence than geographic proximity in facilitating inter-firm co-operation. A semi-structured questionnaire has been developed and the answers were analysed with a stepwise regression model.

Keywords: Networks, Inter-Firm Cooperation, SMEs

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Introduction

Globalisation and ICTs strongly influence international competition. They impose a necessary transition to a new technological paradigm, which presupposes a reorganisation of the geographical concentration in which spatial processes play a fundamental role. In the passage from a cluster-based system to a global one, dynamic agglomeration economies prove to be the key factor.

The internationalisation process fosters the creation and development of networks of firms, especially small ones, that allow rapid circulation of international knowledge acquired from the variety of international links that knowledge implies. In this context, the ability to pursue a coevolution of the formal and informal links of the networks is fundamental in redefining the concept of geographical and scope proximity.

Therefore, the socio-economic scenario, or as Shapiro and Varian (1999) state the 'network economy', is characterised by five different features, namely differentiation, intellectual property, switching costs, positive feedback and interconnections, that are pushing firms, especially SMEs, towards new strategies and approaches to the market in order to win the fierce competition played around the customer. As SMEs are often very innovative and flexible towards the customer, then cost, quality and delivery represent only the starting points to enter the market of the future. Through concentrated localisation, SMEs are able to exploit the benefit of local responsiveness to the fullest succeeding in providing customers with values and outputs across countries albeit in a different way, while at the same time, through dimensional economies, leveraging volumes across countries and competing globally. Since SMEs benefit from proximity, it is easy to develop and deliver superior value and build long lasting relationships with their most profitable customers and partners.

The success factors regard the industry and competitive conditions of the market (i.e. degree of product innovation, size of the segments, first-mover advantages), information management, resources and capabilities (i.e. skills and expertise of employees, investment in IT), and inter and intra organisational coordination (network and alliance management and skills). Indeed, the internal capabilities should be aligned to external opportunities; the former measures the market opportunities while the latter determines the approach necessary to make a transition, involving factors that regard customers, products, market, industry and organisation.

Territorial differences are extremely important and related to a complex mix of factors ranging from the obvious differences in environmental and geographical conditions, to the various historical events which influenced different areas, to recent economic development which affected different areas to varying degrees, in some cases reducing the differences between stagnant and dynamic areas and increasing them in others. The different environmental, geographical and historical conditions, the different rate of technical progress as well as the varied physical conditions have, over time, led to a division in national industry.

The Italian experience shows that groups of SMEs are able to survive and compete due to labour division within the structure, agglomeration economies and geographical proximity that all affect transaction and communication costs. Within a clusterised structure, path dependence acts as a 'modulator' of the undividable and irreversible structure and as a key factor in the localisation of the group (David 2001).

This paper investigates the social dimensions of networks, analysing the concentration phenomenon among SMEs operating in the same sector or complementary ones. In fact, by exploiting agglomeration economies, firms can be positioned in the market firstly, with the network collective image and then with the firm's specific image. Therefore, a cluster in the South of Italy, with a strong international tradition, has been studied using semi-structured questionnaires, in order to identify the factors relevant for its position. In particular, the paper aims to explore the extent to which firm-specific features, the network position of firms and their local dependency (or degree of geographical openness) contribute to the competitiveness of firms in the region considered.

Literature review

In the past decades management literature (e.g. Golinelli 2005) has deeply investigated the role of regional clusters in the development and growth of firms, especially for issues relating to economic externalities, such as economies of scale or scope and the effects of knowledge diffusion or, as Krugman (1991) defined them, knowledge spillovers.

Previous research (Audretsch 1991; Malerba and Orsenigo 1997) have defined the specific features that play an important role in the firm's sector evolution. Above all, the exchange intensification among

firms, especially SMEs, is shifting ever more towards the network-type. Such a structure is institutional and permits an efficient organisation of the economic and technological activities that occur among the connections of the firms.

Although previous literature concentrates on examining how to develop competitive network models and designing attractive localisations, more recent research is focusing on investigating the impact of proximity on the market structure, business models and buyer-seller relations (Torre and Gilly 1999; Kirat and Lung 1999; Boschma 2005). Networks provide effective and efficient ways of conducting business. The importance of managing inter-firm relationships emerged when many realised that they must collaborate with partner firms or even competitors (giving rise to co-opetition models) in order to compete against others. In general, research on these relations has mainly been from two perspectives: economic and socio-psychological. In the economic approach, transaction costs theory has been extensively used to explain the existence of different inter-firm organisational forms (Rindfleisch and Heide 1997). From a sociological perspective, insights from social exchange theory have been applied to understand why, and how, parties engage in exchange relationships and the impact of power sources and exercise on the compliance of supply chain partners.

Inter-firm interaction or networks in localised clusters cannot be seen in isolation. Research has focused on concepts acknowledged by Porter (1998) as being 'social glue'. Thus, companies need to consider aspects of social structures (Ahuja 2000), social capital, referring to the social structures that determine who is going to interact (Davidsson and Honing 2003), as well as the notions of embeddedness (Granovetter 1985), the mechanism whereby an entrepreneur, firm or organisation becomes part of the local structure involving the creation of social ties with the local environment (Jack and Anderson 2002). Huggins (2000) stressed the importance of co-operative activities and trusting relationships in achieving better competitive advantages for business. Furthermore, Huggins stated that social groups seem to be the most potent form of inter-firm network, and an initial informal structure is the best facilitator.

This argument stresses the importance of clusters and industrial districts as 'social network topography' (Van Dijk and Sverrisson 2003), considering the key elements of the social relationships or 'relational mix' (Lechner and Dowling 2003), and not only using an economic geography perspective.

Networks are often the form of collaboration among firms and especially among high technology firms. They contain elements of the key points that characterise them and are related to the position, type of link, quantity and flow. Firms that form a network usually have specific characteristics and the relations established among the productive units contain tangible elements (production transactions and production factors) and non-tangible elements (tacit knowledge and information exchange). Indeed, elements that have been found to affect the development of inter-firm processes and exchange of inter-firm relations have been generally categorised as technical/structural and social bonds or process and relation integration (Robicheaux and Coleman 1994).

From a theoretical point of view the analysis of networks is rather extensive, due also to their institutional differences. The most commonly applied theoretical approach (Nelson 1994; Dosi and Kogut 1993) is based on the technological specificity of the network, and is founded on the idea that industrial dynamics are strongly influenced by the integration of the co-evolution of technology and internal organisation systems. The growth of a network is conditioned by the events which occur in a specific area, that is, the foundation and growth of a network are linked to local development (Maggioni 2004).

Another line of research (Burt 1992; Uzzi 1997) studies groups of companies and networks by analysing social capital as output, through structural and social components, or rather, both as a consequence of the interaction between economic agents and as the determining factor of the spread of knowledge. On this point Cowan (2004) maintains that the higher density and local concentration of firms favours a quicker and better spread of knowledge thanks to the agglomeration effect and trust among agents in the productive units. Proximity of productive units becomes fundamentally important in the district areas and industries where external relations as a vehicle for new acquaintanceships tend to be privileged, while the production of knowledge between firms is underestimated.

The geographically situated clusters of productive activities exploit the advantages deriving from the processes of external technological absorption. Therefore, the positioning of a firm within a network induces the unit to follow a specific, but not explicit, technological paradigm and attempt to increase the level. Spillovers, induced by forms of tacit knowledge between the units, represent the competitive advantage of networks in general, even if other aspects, such as the relation between the division of labour and spread of knowledge, produce different paths and environments in which knowledge mechanisms are established. Indeed, it is widely acknowledged now that spillovers not only contribute to the competitiveness of firms, but also of regions. Especially in the 1990s, concepts like innovative

milieux, technological districts, regional innovation systems, learning regions, etc., were introduced to underline the importance of regions as key drivers of innovation (Camagni 1991; Cooke 2001). Tacit knowledge and information within the network are transferred through informal relations. This is facilitated by geographic and cognitive proximity and by cultural background which reduce the distance between different entrepreneurs.

The nature of relationships between firms.

The nature of the relationships between firms requires proximity, including that of localisation and geographical concentration, surpassing and declassing the mono-polarised space concentrated in a single centre-periphery relationship.

There can be different aspects to proximity which may be mathematically interpreted in institutional, proximity, spatial and inter-relational terms. However, from an economic point of view, the starting point is the simple and generic cataloguing (Torre and Gilly 1999; Rallet 2002) of geographic and organisational proximity. Organisation proximity is founded on relational elements based on the logic of belonging to a cluster - which facilitates relations and exchanges between the members - and on similarity, which presupposes a tacit exchange of competence and behaviour. This is mostly found within the networks and permits the regulation of transactions and exchange of information in conditions of uncertainty. The basic requirement for this type of proximity is represented, on the one hand by the basic knowledge for interaction among the firms of the cluster (inter-organisational relation) and on the other by business acumen in coordinating the different forms and levels of knowledge of the different components (intra-organisational relation). The greatest risk represented by organisational proximity is that the circulation of new knowledge leads to a higher level of uncertainty and opportunism.

Other interpretations can arise from the interaction and overlapping of these two categories, such as social, cognitive and institutional proximity. The literature on social proximity (Granovetter 1985; Boschma 2005) retains that economic and social relations are closely linked. From a microeconomic point of view, social relations between agents are based on trust but exclude cultural ties which are studied more at the macroeconomic level.

Cognitive proximity, however, has the advantage of favouring the exchange of information between cluster members through the absorptive capacity of each firm. Prahalad and Hamel (1990) maintain that, while the latter may mean the possibility of routines and the production of spillovers unintended within the cluster, when taken singularly it is the most suitable for knowledge transfer.

Institutional proximity is closely linked to the social and organisational types and deals mostly with macroeconomic issues. The role of institutions is well documented in literature (North 1990) especially because it reduces transaction costs and the risk of uncertainty. Institutional proximity includes both the role played by formal institutions (e.g. laws) and by informal ones (behavioural and cultural norms) in as much as the efficiency guaranteed by an institution leads the others in a valid complementary relationship and permits other types of mechanism (proximity) to function.

Single productive units are characterised by both internal and external elements. In this context the physical proximity, social capital and relational capital become important. The first is the vehicle for the spread of knowledge while the second is the social network (trust, institutions, collectiveness) closely linked to the local community. The last aspect (relational capital) is similar to social capital in the sense that it is representative of the relationship between the players (firms, institutions etc.) but differs from it in that no ties with a particular area/territory are expected. These three concepts centre around the concept of "milieu innovateur", where the term 'milieu' includes the ability of an area to sustain long term competition by continually adapting to external changes.

The absorptive capacity of firms and the quality of the business organisation factor assume greater importance within physical proximity and relational capital. The absorptive capacity of a firm is measured by its aptitude in using and implementing the external information and knowledge. Pilotti (2000) maintains that the division of labour relative to a specific production can be interpreted as a cognitive division of labour. The cognitive elements of knowledge absorption need to be formed between the firm and the context in which it operates, which are founded on the very processes of knowledge and learning (Cohen and Levinthal 1990). Therefore, the transfer of new knowledge between and within the group units, which is the basis of absorption, is more obvious the greater the bank of personal knowledge of each firm (Tura and Harmaakorpi 2005).

Research questions

Since Italian production is mostly carried out by SMEs, based on traditional handcraft with a very restricted market, they try to increase efficiency by organising production on a larger scale, and exploit economies of agglomeration and productive specialisation, through directly providing consumers with tailored and high quality products. The Italian industrial system has been forced to undertake a process of re-engineering and reorganisation for those sectors that were most exposed to international competition. Consequently, the new industrial system mostly organised in clusters, produces outputs, characterised by a close-knit network of specialised and tailored relationships that grant economies of scale on a territorial basis rather than on a dimensional one. The constant challenges and evolution in the demand and supply systems require SMEs to restructure the innovative factors of competitiveness and the inter/intra firm relationships, in order to maintain the competitive position, market shares, niche power and consumer preferences.

This study aims at analysing the role of geographic co-location and the influence of social networks in the development of inter-firm cooperation, especially in an area where place specific history, economic factors, values and culture play an important role in network creation and development (McNaughton and Bell 1999; Brown and McNaughton 2002).

Indeed, entrepreneurial influences (for example, the acquisition of social capital and the use of networks), rather than geographical co-location, are more important in the development of inter-firm cooperation. Three contextual factors can affect the type (structural or social/relational), dependence and dynamics between inter-firm relations: the higher the asset specificity and the fewer the alternative resources, the higher the dependency of a firm on its partner. Social bonds include trust and satisfaction while structural bonds include communication and dependence.

Analytically, the importance of communication for holding a relationship together has been stressed in the literature as the 'glue' that holds together a channel of distribution. Communication and the exchange of information is also characterised as the lifeblood of collaborative inter-firm relations (Sigala, Maroudas and Tsartas 2004). According to the social exchange literature, effective communication between partners is essential to achieve the intended objectives, as it leads to better informed parties, which in turn should make each party more confident in the relationship and more willing to keep it alive. In turn, dependence is created by the relationship investments of partners, that is, asset reciprocity that holds the relationship partners together and creates barriers against leaving the relationship because of the high costs involved. The greater the interdependency, the stronger the relational behaviour. Dependency between organizations results from a relationship in which participants perceive mutual benefits from interactions (Bensaou and Venkatraman 1995).

Literature on networks underlines the organisational processes that underlie alliance decisions. Networks make potential partners aware of each others existence, needs and capabilities, that help to develop the necessary trust (Gulati, Nohria and Zaheer 2000) and make opportunism more costly due to reputation effects (Gulati 1995). Granovetter (1992) identified two distinct components of social structure that influence network formation: the relational components consisting in direct relationships within which the firm is embedded, and structural components which provide knowledge about potential partners that firms may acquire from a variety of social sources.

Trust, an inter-firm relationship quality feature, is conceptualised as 'the firm's belief that the other company will perform actions that will result in positive outcomes for the firm, and it will not take unexpected actions that would result in negative outcomes for the firm' (Gulati 1995). Trust emerges when partners share a variety of experiences and increase their joint action and participation in the relation (Fitzgerald and Willcocks 1994; Heide and John 1990), understand one another's objectives and goals (Moorman, Deshpande and Zaltman 1993) and when there is an increased commitment and so reduced uncertainty regarding another's behaviour (Henderson 1990). Therefore, the inputs that generate trust are regular interaction, communication, cooperation, joint actions and decision making, and closeness between the parties in a relationship.

H1: Inter-firm cooperation is positively affected by trust

Different cultural values and attitudes (Hofstede 1980) affect models of conduct, standards of performance and inter-personal relationships (Tayeb 1994; Hewett and Bearden 2001). Therefore, trust influences the relational behaviour that firms engage in, especially the cooperative one, and the level of collectivism and/or individualism (Chen, Chen and Meindl 1998). Belonging to a network develop the capabilities of the firm as a result of the learning process. Thus:

H2: The more similar the cultural background the more willing are the entrepreneurs to co-operate.

Methodology and Empirical results

The sample of this study was drawn from the Chamber of Commerce database. It has been chosen the pottery sector that makes a substantial contribution to the remote-rural and regional economies of the area investigated. The population of firms in this sector that meets the criteria of this study consists of 42 from a total of 74 firms. A personal survey was conducted using a semi-structured questionnaire, during July 2005 and January 2006. This generated a total of 40 usable responses.

The area studied was in the province of Taranto, more specifically the town of Grottaglie. This choice was conditioned by the analysis of the relationships between the traditional firms in the area which had founded the family tradition of pottery. The relationships between independent firms with no cross holdings require an hybrid way (e.g. inter-firm co-operation) to replace conventional market contracts as asset specificity increases and evoke substantial trading hazards. Thus, it is possible to identify the network substance in the geographical and social proximities, respectively in the strong bonds with localisation and traditions. This sort of path dependence encouraged the entrepreneurs to set up a consortium in order to defend and promote their products in the international competition.

The firms analysed present the following characteristics:

- *age of the firm*: 60% of the sample was founded in the 1980s,
- *age of the entrepreneur*: the average entrepreneur is 50 years old; the youngest is 19 and the eldest 75,
- *type of firm and competences*: 65% are family businesses and 35% one-man businesses. 50% of the entrepreneurs inherited the capabilities (firm specialisation and the craftsmanship feature) from their parents, while 45% the customers and 5% the accounting system,
- *innovation and changes*: 80% of the heirs has innovated the firm machinery every five years.

The variables considered measured the four forces that, as hypothesised, are at the basis of the cluster. The aim of the paper is to investigate the inter-firm cooperation using dependence, trust and cultural background as exploratory variables.

A five-point semantic differential format was used for the measurement items. The inter-firm cooperation has been measured by the credibility, accuracy, frequency, timeliness and meaningfulness of information exchanges (Anderson and Narus 1990). By aligning supportive inter-firm co-operation, the parties can adapt to changing circumstances. This implies routinisation of information exchanges and joint planning, but does not limit the exchange of information, for example, about product specifications, estimation of costs or production planning to the simple physical proximity (Stern and Reve, 1980, Reve and Stern, 1986). Network closure focuses on the risk of incomplete information and implies that a dense network of interconnected actors enhances information access and reduces risk of opportunistic behaviour by mutually enforcing mechanisms of norms and sanctions (Coleman, 1990) or trust (Granovetter, 1985). The scale achieved a high level of reliability ($\alpha = 0.85$, variance = 0.72).

Moreover, Anderson and Narus (1990) demonstrate that dependence and trust have both been shown to be positively related to cooperation. The effects of trust on cooperation are posited to be different for different level of dependence.

Dependence and its counterpart, power, are regarded by many theorists as central to explaining organisational and interpersonal behaviours (Morgan and Hunt, 1994). Dependence is defined as the degree to which a target firm needs the resources provided by the source firm to achieve its goals (Andaleeb, 1995). All dependence relationships are not likely to exhibit similar characteristics. In this paper the dependence construct has been measured with respondent's perceptions of their need to maintain the relationship among firms. The scale achieved a high level of reliability ($\alpha = 0.83$, variance = 0.77).

Since numerous different conceptualisations of trust exist, the trust scale measured the confidence a party has in the honesty and integrity of their partner. Further, trust has been shown to be critical in relationships where there is a high degree of risk, uncertainty, or lack of knowledge (Coulter and Coulter, 2002). The scale had a five-point format and used the items adopted from Morgan and Hunt (1994). According to them, trust encourage firms: (i) to work towards preserving relationship investments by cooperating with exchange partners; (ii) to resist attractive short-term alternatives in favour of the long-term expected benefits of staying with existing partners; and (iii) to view potentially high-risk actions more favourably because they believe that their partners will not act opportunistically.

The purified scale displayed a high level of reliability ($\alpha = 0.84$, variance = 0.81).

Finally, the cultural index was developed by Hofstede (1980) in order to reflect individualism/collectivism and, due to the cluster features, the heritage and family traditions. Since the

shift of Hofstede's index from a national to a local level can cause problems in the analysis, the features of the area investigated renders the adoption the Hofstede construct possible. Therefore, the different local communities on which networks are created, show a path dependence that emphasises the hypotheses on which this index is based. The scale achieved a high level of reliability ($\alpha = 0.87$, variance = 0.85).

A multiple regression has been chosen as the analysis method. Missing values (which were few) were replaced by the average. The correlation coefficients analysis showed that trust and dependence were both significantly correlated (0.82250). Moreover, VIF has been calculated to avoid problems of multicollinearity; the estimates do not show multicollinearity problems, except for the 'dependence' variable (VIF = 7.1248). Therefore, this variable has been eliminated from the regression model.

The results are interesting, considering that R^2 value is 0.66 (see Table 1). The impact of 'Trust' and 'Cultural background' on 'Inter-firm cooperation' is significant (see Table 2), thus confirming the hypotheses H1 and H2.

Table 1: Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.602(a)	.362	.304	6.3866	
2	.818(b)	.668	.602	4.8289	2.347

a Predictors: (Constant), Trust

b Predictors: (Constant), Trust, Cultural background

c Dependent Variable: Inter-firm cooperation

Table 2: Regression Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-51.425	24.464		-2.102	.059
	Trust	.740	.296	.602	2.499	.030
2	(Constant)	-65.199	19.044		-3.424	.007
	Trust	.764	.224	.621	3.409	.007
	Cultural background	.427	.140	.554	3.040	.012

a Dependent Variable: Inter-firm cooperation

Indeed, 'Trust', one of the most frequently quoted social bonds, is viewed as an essential element for successful relationships and concerns the confidence and reliability of exchange partners. 'Cultural background' tightly bonds the inter-firm connection, due not only to culture-led relations but also to family-led ones.

The small firms analysed, that share common values with Southern Italy industrial structure, adhere to the theory of Putnam (1993) on the strong individualist element of the entrepreneur. Most firms in the network have a high level of social capital and a reduced level of technology. These characteristics represent privileged access for new entrepreneurs, i.e. only for those who benefit from the familial transfer of skills and for the apprentices who benefit from the craftsman transfer of local skills. On the other hand, the strong social component and the familial transfer of skills represent the strongest barriers, in that although entry on the local market should potentially be possible for any person with the financial tools and connections however low.

The social motivation at the heart of this typical firm which operates in the area seems to be the unique element. In this context, there is a shift from entry motivation and permanence on the market which follow the logic of profit to choices based on a boost/incentive of ability. Therefore, the culture of cooperation seems to be the basis of the relationships between firms in this area which are founded on trust between families. The strong relationship between firms in this cluster and the specificity of family based skills means the firms are not affected by the competitiveness of emerging economies, especially in terms of costs. In fact, the type of manual labour specific to pottery production is highly traditional and specialised only for those who benefit from the generational know-how.

Conclusions

In the end, the present study, though exploratory, has underlined that social bonds are not necessarily independent of structural bonds, that open technological systems and the information flow can greatly influence the significance and impact of the interplay between social and structural bonds and so ultimately the inter-firm relations and dynamics. So, depending on the situation and context, social bonds may be used for reinforcing, supporting and/or inhibiting structural bonds and vice versa. More generally, social bonds may need to be in place before knowledge-based structural bonds develop while contractual arrangements between parties in a relationship can be an antecedent of trust. Moreover, entrepreneurial influences are likely to increase in future importance, as communication technologies, used to build networks between firms, are changing the rules of geography and co-location.

Certainly, the analysis has some limitations, such as the sample size, the area and the variables considered, but could represent a starting point on which to base future research on at least other three factors, i.e. i) institutional bonds, ii) context variables, and iii) market effects.

Despite the limitations listed above, the research attempted to offer a better academic understanding of the role of trust and culture in network competitive advantage. The findings should also be useful to local governance for a better understanding of the network phenomenon and its determinants, in order to develop appropriate programmes in training and supporting the transmission of local, unique capabilities.

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