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Abstract
The many competing schools of thought concerning themselves with industrial clusters have at least one thing in common: they all agree that clusters are real life phenomena characterized by the co-localization of separate economic entities, which are in some sense related, but not joined together by any common ownership or management. So hierarchies they are certainly not.

Yet, it is usually taken for granted that clusters, almost regardless of how they are defined, all expatriate the 'swollen middle' of various hybrid 'forms of long-term contracting, reciprocal trading, regulation, franchising and the like' residing somewhere between hierarchies and markets. This fundamental (but usually implicit) assumption would, perhaps, be justified if markets could be reduced to events of exchange of property rights, between large numbers of price-taking anonymous buyers and sellers supplied with perfect information as they are commonly conceived in mainstream economics. One of the original attractions of Neoclassical price theory was precisely that it promised a way of analysing the economy in general and market exchange in particular independently of specific institutional settings.

However, introducing transaction costs as more than fees paid to intermediaries leads inevitably to comparative institutional analysis and, not to be forgotten, to the perception of markets as institutions with specific characteristics of their own. Some sets of characteristics are so common that they represent a specific market organization or market form. The cluster is one such specific market organization that is structured along territorial lines because this enables the building of a set of institutions that are helpful in conducting certain kinds of economic activities.

Supported by empirical illustrations the paper argues that clusters are markets where commodities, services and knowledge are traded in a notably efficient way among the insiders without restricting their abilities to build pipelines and to interact with suppliers and customers residing elsewhere. The institutions characterizing this market form help creating an environment among insiders that reduces the barriers to acquiring and utilising knowledge produced or used locally.

Key words: Clusters, organisation, knowledge transfer, transaction costs

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> In a world of strangers .. a new sucker arrives every minute...The dealing of strangers are subject to social norms. In a world of Hobbesian asocial nomads the next stranger you meet would just as well shoot you as shake your hand. That is why the airlines are crowded with business travellers, on their way to making friends. (McCloskey, 1994:373)

1. Introduction

The aim of this paper is to investigate the spatial configurations of the economy that are particularly geared towards the creation, transfer, and usage of knowledge. Knowledge as an economic input and as a commodity in its own right becomes crucial as the process of globalization gradually renders most traditional factors of production increasingly ubiquitous, i.e. equally available to all competitors regardless of location (Maskell & Malmberg 1999, Maskell 2001a). The paper pays special attention to the processes whereby the emerging knowledge economy translates into regional development patterns and patterns of interaction among business firms commonly associated with industrial '*clusters*'. [1]

There are many competing schools of thought concerned with industrial clusters but they all agree that this real life phenomenon has to do with the co-localization of separate economic entities, which are in some sense related, but not joined together by any common ownership or management. In spite of this basic accord no general understanding has yet emerged regarding the paramount reason why the separate entities became co-localized in the first place, what has made them stick together, what the effects may be, and - at an even more basic level - why this matters at all.

The present paper addresses these fundamental questions related to industrial clusters by arguing that markets become organized in order to carry out certain kinds of economic activities efficiently. The paper proposes that the spatial arrangement of industrial clusters is in essence a market, organized in a particularly helpful way.

The paper is structured as follows. In Section 2, we outline the two basic building blocks of the modern exchange-economy economy - firms and markets - and their interaction. Section 3 investigates how markets become organized as rent-seeking firms build network relations to reduce uncertainty and create knowledge while keeping transaction costs at bay. Other arrangements are wanted when network building is not a feasible strategy. The paper suggest that clustering provide such an alternative that coexist with the non-spatial network organization. Section 4 focus on a the geographically delimited *clusters* and the kinds of

[1] Clusters are non-random (Ellison and Glaeser, 1994) geographical agglomerations of firms with similar or highly complementary capabilities (Richardson, 1972). The term 'cluster' is used in this paper in a generic sense including related concepts such as 'geographical agglomeration', 'industrial district' etc. For a further discussion see Malmberg and Maskell (2002). The existence of clusters has been commented on by many scholars, earliest and most noticeable by Alfred Marshall (1890, (1919), and more recently, by a swelling group including Beccatini (1990); Brusco (1986); Dei Ottati (1994); Garofoli (1992); Gottardi (1996); Belussi (1999); Maillat, (1991); Kirat and Lung (1999); Swann *et al.* (1998); Markusen *et al.* (1986); Saxenian (1994); Schmitz (1999); Arthur (1990); Staber (1994); Steiner (1998); Feldman (1994), Phelps and Ozawa (2003); as well as the prevailing contribution by Porter (1998, 2000).

highly flexible inter-firm relations they support. Section 5 offers an empirical illustration of the paper's theoretical argument, sketching out the market organization and spatial configuration of the furniture and pop music industries, respectively. While these industries are differently influenced by the emerging knowledge-based economy, they are also differently organized in terms of the importance of networks and clusters in general and the usage of various cluster benefits in particular. Section 6 concludes the paper by summing up the main arguments.

2. Firms and markets

So commonly used, and so familiar to most of us are the two concepts of *firms* and *markets* and so intimately are they jointly associated with the modern, globalizing[2], knowledge-based, exchange economy that we sometimes tend to forget that they are social innovations made centuries ago, independently of each, and only recently combined.

Markets seem to have emerged at least three millenniums ago as temporary meeting places for the exchange of gossip and produce among individuals (families, clans) but only within the last two centuries were they institutionalized and regulated with the explicit aim of enhancing competition. The existence of a market in this modern sense is by no means self-evident, as Williamson (1983) is sometimes taken to suggest.[3] Modern markets are, on the contrary, the result of careful deliberation and conscious effort combined with innovations less rationally planned (Hayek 1937, 1945; Polanyi, 1957).[4] Even the briefest spot transaction between partners at arm's-length normally takes place in markets that have nowadays become highly institutionalized.

Firms were conceived much later than markets. The word 'firm' was first recorded in 1574, deriving from *firmare* meaning 'to ratify by signature'. However, it appears that the lawyer Sinibald Fieschi, who in 1243 became Pope Innocent IV was the first to use the phrase *persona ficta* when assigning rights and obligations to a strictly fictional. He thereby including the idea into Roman law that property rights could be executed, assets assembled, capital accumulated and contracts made by purely legal entities of limited liability and infinit lifetime (Maskell 2001c). The subsequent dissemination of this legal innovation – and an innovation it certainly was - has had momentous consequences for the emergence of capitalism as the firm gradually became the main instrument and

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2. The process of globalization brought about by the reduction of trade barriers, shrinking customer loyalty to local products, the efficiency of mass marketing and global supply chain management practices, etc. joins hands with recent advances in new communication technologies to reduce even further the friction of space.

3 Not least Brian Loasby (1994) has pointed out that Williamson's famous dictum: 'In the beginning there were markets' (1983: 20) should not be taken as a statement about the actual historical progression of economic life in the real world, but merely as the point of departure for a chain of arguments about the organization of the economy.

4 In his increasingly celebrated essays on 'Economics and knowledge' (1937) and 'The use of knowledge in society' (1945), Hayek has, for instance, convincingly argued how the perhaps most basic mechanism of the modern market — that of exchange prices — can best be seen as the unanticipated consequence of what might be described as an historical accident. In essence "...man has been able to develop that division of labour on which our civilization is based, because he happened to stumble on a method which made it possible." (Hayek 1945: 528). See also Polanyi (1957) regarding how the self-regulating market was "the fount and matrix of the system,[...and the...] innovation which gave rise to a specific civilization" (page 3).

organizational form for coordinating an increasing part of all economic activity carried out by individual members of the society.

Contemporary rent-seeking firms exchange plans and ideas as well as ownership of bundles of commodities in markets that provide the institutional framework - or *setting* (Loasby 1994) - for such events of co-ordination and exchange.[5]

The boundary between the realm of the market and the realm of the firm remained obscure until the summer of 1932 when the later Nobel laureate Ronald Coase discovered why individuals sometimes prefer to utilize their skills under an employment contract rather than as free entrepreneurs. (Simon 1982, Loasby 2000). The answer, Coase realized, was that there were costs when using the price mechanism of the market, and that these costs - later to become generally known as 'transaction costs' (Coase 1937, 1992, Williamson 1975, 1996) - sometimes exceed the costs of organizing things under the authority of a single leadership within the framework of a firm.

His findings resulted in a steadily swelling interest in determining precisely which activities a firm may profitably combine under its managerial authority and which are best left to be produced by others and acquired through the market.[6] While the question of what to make and what to buy has become the probably most studied phenomenon in all of economics during the last decades, far less attention has been paid to the related question of how activities divided between firms are subsequently combined to create something useful.

Once a firm has decided, at least for the time being, on what to make and what to buy, competitive pressure compels it to do both as efficiently as possible. Tough choices has to be made on scale, technology, labour, distribution and pricing policies, etc., but these 'make'-related questions are not our concern. Instead, we focus exclusively on how firms maximize the benefits of external relations in general, and in particular how firms through market relations:

1) become more knowledgeable about present and future possibilities and requirements and transform this knowledge into product and process innovations (*knowledge creation*)
2) compensate for demand and supply fluctuations and thus help securing the efficient usage of resources that each firm has committed in production (*resource efficiency*)

[5] This definition of markets is broader than the so-called Arrow-Debreu (1954) definition, commonly adopted in mainstream economics, where market interaction consists of *events* of exchange in which price signals are the only information carrying device available to the participating firms. Loasby (1994), among others, argues that markets, as institutional *settings* where events of exchange takes place, cannot meaningfully be reduced to standard price theory. Bowles (1998) stresses how markets do much more than allocate goods and services while White (1981, 2001) contributes with a coherent alternative from a sociological perspective. Rosenbaum (2000) attempts to build a basic classification of market approaches. See also Hodgson (1988, 1998), Hart (1995) and Foss (1999).

[6] The efforts share the common understanding that the decision of outsourcing (or the reverse process of 'insourcing' by engaging in activities new to the firm) is never final but must reflect how processes internal to the firm over time can undermine or augment its previous suitability to undertake certain activities vis-à-vis current incumbents or new entrants. Splitting firms with heterogeneous portfolios of activities into a number of independent and more homogeneous parts is further favoured by the present vogue on the world's stock exchanges where differentiated assets are deemed 'difficult' to assess and value.

While market relations offer opportunities of creating knowledge and compensating for fluctuations, these benefits may be offset by transaction costs.

Such costs include costs related to the alignment of incentives and plans, i.e. 1) search and information costs carried by the firm before any potential business partner is identified, 2) the bargaining and decision costs before engaging in a transaction and 3) the policing and enforcement costs to ensure that what was agreed on is actually delivered (Dahlman, 1979). They also include communication costs related to cognitive distance, i.e., the costs stemming from misunderstandings between and among firms with different mindsets or expectations, or the costs of bringing down such cognitive differences through negotiations and sharing of information (Lorenzen and Foss, 2003).[7]

To maximize one of or both benefits of market relations while keeping transaction costs down, firms participate to the creation of institutions— they *organize* the market. The form or market organization they will choose depends, ceteris paribus, upon the characteristics of the industry they are in.

Firms that operate on certain kinds of markets, particular in standard goods, tend to prefer the freedom of spot-transactions, choosing different partners with each purchase based on competitive bidding when dealing with the 'buy'-related issues. However, in many other cases firms find that more can be gained if the singular events are replaced in full or in part by commitments of repeated transactions.

Firms realizing by conjecture or experimentation that there are disadvantages when playing the spot market tend to choose between two exemplary strategies: they engage in network formation when their set of customers, suppliers, and products is reasonably stable and in clustering when it is not. [8] The choice thus depends on the degree of expected relational stability that in turn reflects cardinal variance in industry uncertainty (Knight, 1921) in terms of unforeseeable changes in technology, supply and demand.[9] Regardles of which strategy is followed the departing from spot-market interactions result in a structuring of the market in 'them' and 'us'. Firms become 'insiders' by investing in building or joining networks in cases of relatively low industry uncertainty, or clusters building in cases of relatively high industry uncertainty.

This process, and the benefits associated with it, will be outlined in the following sections, starting with the building of networks.

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[7] However, the *transport costs* of delivering physical goods, and the *time costs* of interacting in a broad sense (Thompson 1967, Grandori 2000) often associated with the use of markets are not specific for inter-firm relations but will equally burden subsidiaries of a single firm.

[8] The term 'exemplary strategies' denotes that while most communities are spatially defined in clusters some are not, and that though most networks seem to depend relatively little on spatial proximity, some are very geographically agglomerated.

[9] In particular, high demand uncertainty raises a range of problems related to knowledge creation (such as how to identify and advance product and process innovations and improvements that can match unforeseeable market demands), as well as problems related to cost and time efficiency (such as how to efficiently respond to unforeseeable demand volumes, through varying production volumes and product varieties).

3. Organization of markets through network building

If, and only if, the group of up- and downstream partners is reasonably stable can firms hope to benefit from following a network strategy. Initiating 'dyadic' relations (Demsetz 1968, Wilson 1975) with a stable set of partners can reduce transaction costs to a degree where the benefits exceeds the costs when attempting to achieve knowledge creation and/or resource efficiency.

If successful, such dyadic relationships are intensified as both parties contribute in strengthening the bilateral links and dilate their scope to involve several or all layers of the two organisations (Ford 1990, Sabel 1992). Each new link created, each new experience with the partner's peculiar ways, and each new routine and convention (Egidi 1995) facilitates future exchange and makes the interaction function without much fuss. Through continuous interaction and information sharing, former misunderstandings and suspicions are gradually eliminated and the interaction can encompass a still wider range of plan-alignment and joint knowledge creation. Step by step, the cognitive distance is diminished as emerging *code-books* — shared languages and ways of communicating and understanding information (Cowan *et al.* 2000; Lissoni, 2001) — increase firms' cognitive abilities to coordinate activities and plans or share knowledge even if (partly) tacit. Over time the repeated interactions can also give rise to incremental learning of considerable significance for the overall competitiveness of the firms involved (Lundvall, 1985).

Once the element of relation-specific sunk costs[10] is large enough, a qualitative change takes place, as the scope for opportunistic behaviour (Williamson, 1975) becomes negligible. In a dyadic relation, the accumulated sunk cost makes the partners behave as if they *trust* each other (Ben-Porath, 1980).[11] As Granovetter (1985) shrewdly noticed:

> Malfeasance is here seen to be averted because clever institutional arrangements make it too costly to engage in, and these arrangements - many previously interpreted as servicing an [other] economic function - are now seen as having evolved to discourage malfeasance. Note, however, that they do not produce trust but instead are a functional substitute for it (Granovetter 1985: 489)

Trust will thus characterize a relation between business firms when each is confident that the other's present value of all foreseeable future exchanges exceeds the possible benefits of breaking the relation. The larger the sunk costs, the greater the confidence and the trust. And trust is a remarkably efficient lubricant to economic exchange, assuaging the friction for interaction, co-operation or exchange. Risks of committing resources inefficiently are reduced when crucial information about changes in demand and supply is volunteered. Sharing risks is especially important when confronted with the need to make great leaps into new business areas or when challenging the established ways of conducting business (Loasby 1991). Moving forward together by sharing risks also

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[10] Relation specific sunk costs are investments that cannot be recaptured even partly if the investing firm decide to exit the relation (Baumol and Willig 1981, Baumol *et al.* 1982). High exit costs limit opportunistic behaviour and acts as safeguards for exchange.

[11] Following Glaeser *et al.* (1999) trust can be defined as the commitment of resources to an activity where the outcome depends on the cooperative behaviour of others.

secures against investing in procedures or technologies not acknowledged by others (Richardson 1998). New markets can be developed and new solutions found when firms share information without fearing that they might never receive their fair share of a potential gain (Storper 1994, Fukuyama 1995). [12]

One important consequence of high levels of relation-specific sunk costs is that the flow of knowledge between the two business partners does not have to be strictly reciprocal or take place at precisely the same time. The overall exchange of knowledge is intensified and deepened when business partners believe that some piece of knowledge offered free of charge today will be repaid at some later moment in some way or another (von Hippel 1987).

Networks may expand from dyads to encompass a growing number of partners. By utilizing investments in already existing relationships as channels to new partners (your-friend-is-my-friend), firms successfully minimize their search costs as well as other transaction costs when expanding their business network (Håkansson and Snehota 1989). With the risk of severing carefully built bonds to intimate business associates if they misbehave, the participants in an expanding network are placed in a situation where any infringement of trust is so severely penalised that in effect, malfeasance becomes a non-option (Roscher 1989; Casson 1991).

On the global arm's-length spot market for standard goods, where all customers and all suppliers can easily be substituted, an unsatisfied customer has no way of reaching all potential future buyers, and opportunistic behaviour can therefore continue indefinitely. Not so in the business network, where any such wrong-doing will soon be known by all.

The collective awareness of this mechanism makes it possible to keep transaction costs down while attain resource efficiency and exchange knowledge to an extent no outsider can aspire to achieve (von Hippel 1987).

Many of the benefits of networking may also become available to non-networking that are able to utilize a contrasting form of market organization: the cluster. To this we shall now turn.

4. Organization of markets through cluster formation

Industry uncertainty implies that not all industries are characterized by reasonably stable sets of suppliers, customers and products. With high levels of uncertainty it make little sense for firms to engage in network building with what will soon become yesterday's partners. Firms finding themselves in such circumstances tend instead to opt for a strategy of being a stakeholder in a *cluster.* Within a cluster, the structuring of markets usually takes place with the participation of more ‘insider’ firms and on a broader level than if

[12] The product innovation literature has convincingly established that firms learn from each other when interacting, and that such interaction helps them solve problems beyond the ability of each individual firm See, for instance, Rosenberg (1972), Freeman (1982, 1991), Håkansson (1987), Kline and Rosenberg (1986), DeBresson and Amesse (1991), Hagedoorn and Schakenraad (1992), OECD (1992), DeBresson (1996).

embedded in a business network only. The extended range of 'insiders' with their own capabilities and resources allows for experimentation, flexibility and the use of shifting combinations of partners without carrying the full burden of spot-market transaction costs.

Firms opting for co-localization strategies participate in building communities that share institutions, just like in networks, but the cluster institutions are often confined in scope (usually applicable to firms in one or a few related industries only) and always restricted in space (usually to be found on a local or regional level only).

Project relations

If industry *ambiguity*[13] prevails and firms need regularly to redefine vital aspects of their product, *project relations* become the common form of interaction.[14] This is, for instance, the case in industries dominated by non-continuous production (e.g. construction) highly ambiguous consumer tastes (e.g. fashion, film, music etc.)[15] or customization (advertisement, consultancy, etc.) where firms form projects to find solutions to a specific customer's demand within a definitive period (Goodman and Goodman 1976; Ekstedt *et al.* 1999; Davis and Brady 2000; Hobday 2000; Grabher 2002; Engwall 2002).

Projects are notoriously costly as they deal with tasks that are usually open-ended and, consequentially, often badly or insufficiently specified. The establishment of cost-minimizing routines presents additional difficulties because of the typical temporary and one-off nature of the projects. As each inter-firm project evolves, procedures must often be re-defined and the goals adjusted, resulting in changes in the competencies needed for the project to be completed. Such adjustments add further instability to the group of project participants and it is thus not uncommon to witness inter-firm projects running far beyond the date originally set for their completion while grossly exceeding their budgets. The limited duration of interaction also places severe constrains on sharing of information and cumulative learning processes just as inter-firm projects regularly suffer from knowledge appropriation problems, as much of the knowledge created in the course of projects is often lost when projects are dissolved and participants disperse.

Yet, in industries like advertising (Grabher 2002), film, or music production, firms with highly complementary capabilities do constantly and concurrently form new temporary vertical market relations because it enables knowledge creation under industry uncertainty or ambiguity, through targeted experimentation required for producing unique and highly customized products within a definite timeframe (Nelson and Winter 1982; Rosenberg 1992; Foss and Foss 2002). Experimentation is, in itself, a risky affair, but firms develop a particular strategy for handling such risk. The common risk-reducing strategy consists of building portfolios of overlapping projects with different partners, customers and

[13] Ambiguity differs from uncertainty by the fact that it cannot be reduced by the collection of more facts.

[14] Inter-firm projects, being market based, should be distinguished from the temporary *intra*-firm task forces or "*project teams"*. However, as with project teams, inter-firm projects are often constituted by carefully selected staff (but in this case from different firms), which, for a period, dedicate some or all of their time to the tasks specified for the project.

[15] Knowledge creation in the creation in Entertainment (or "Creative") industries differs from most other industries by being mainly non-accumulative: "One rarely hears people say how fortunate we are today to have Karel Appel, Louis Andriessen and Connie Palmen so that we do not have to suffer the primitive attempts of Rembrandt, Mozart and Shakespeare." (Wesseling 2003: 15). Knowledge creation is, nevertheless, of profound importance for determining the outcome of the competitive struggle among firms also in these trades.

deadlines.[16] The overall survival rate also increases when the selection of successes and failures takes place at the project level (through initiating and terminating projects), rather than at firm level (through entry and exit). Hence, the inter-firm project-based form of experimentation is particularly suited for 'not keeping losers for too long' and for not 'not losing winners' (Carlsson and Eliasson 2001: 6). Project-based experimentation is thus an appropriate mechanism for facilitating the open-ended invention and testing of new products and marketing methods, on uncertain markets, over limited (if often flexible) test periods that is required in certain industries.

Flexible relations
In industries with less market ambiguity but moderate to high levels of industry uncertainty, firms frequently need to expand or reduce their output or adjust their product range to provide variety. In such industries the common form of interaction is *flexible relations* where partners can be found or dropped according to the current market situation.

The resulting freedom in choice of partners facilitates resource efficiency under industry uncertainty and is crucial for the competitiveness and survival of especially small firms faced with volatile markets and calls for perpetual variation. Along the vertical axis of the value chain, the clustered firms meet demand changes in the market by shifting between specialized suppliers, and sometimes using a new specialized supplier for a one-off delivery.

Along the horizontal axis, firms may also level out the effects of a volatile demand volume by passing on tasks in case of excessive demand, and supplying to others in times of low demand. Flexible relations are distinct from spot relations, as they have a much higher degree of customization and specialization, amounts to exchange of detailed specifications and other information, and often rely on mutual favors. They are also unlike project relations, as they are mostly unscheduled and set up with very short notice and high levels of urgency. Due to their urgency and short duration, flexible relations are, relative to projects, inefficient for knowledge creation. The knowledge creation effects of flexible relations are, however, usually higher than for spot relations.

Cluster institutions
Project relations and flexible relations among clustered firms both rely on *collective institutions* helpful in reducing transaction costs without imposing high switching costs precisely because they are based on social traits rather than on the idiosyncratic, partner-specific investments and dyadic sharing of information that characterize networks (as described above in Section 3).[17]

[16] This is also why, for instance, the local plumber always attempts to service several households concurrently rather than sequentially.
[17] A cluster also provide an environment that curtails the costs and risks associated with establishing new firms through relocation or by spin-offs (Belussi 1999b, Klepper 2002). By starting activities close to what is already going on in the cluster, new firms can skip the burdensome and costly process of gathering a lot of circumstantial knowledge about the business environment which would be crucial outside the cluster: "If it works for my neighbour why shouldn't it work for me, too?" A favourable business environment includes a labour market with a sufficient supply of the most appropriate skills (to be hired if offering competitive wages), a competent capital market of bank managers accustomed to the business at hand or with particularly skilled venture capitalists or business angles, a ready-made access to suppliers, with the

Because the participants in projects and flexible relations originate from different firms and only work together temporarily, they have few incentives and little time to develop the kind of coordination mechanisms that emerge in stable business networks. The problem is particularly severe for flexible relations. Not only are projects of longer duration than flexible relations, but the willingness to place investments in a project in order to make it work smoothly, even if these investments are lost after the project is dissolved, is often higher, due to the complex and often customized nature of the tasks solved by the project. Furthermore, many projects are partly coordinated by one of the participants (for example, contractors in the construction industry, and record companies in the music industry), alleviating some (but not all) of the problems connected to temporary relations through exercise of power and direction. Flexible relations, on the other hand, are often based on symmetric power and reciprocal favours.

However, the sheer clustering of firms and people boosts the incidence of 'weak ties' (Granovetter 1973) that keep transaction costs at bay. Weak ties in the guise of personal networks of friends and "friends' friends" are much more sensitive to geographical distance than other relation types, because they depend on face-to-face meetings and are nurtured by incidental meetings on the street and in civic life (Granovetter, 1982; Becattini, 1990; Lorenzen 2002).[18] Weak ties are collective institutions that bring down information costs for the 'insiders' of the cluster by spreading information through meetings, gossip, and direct observation. Hence, weak ties are a source of much richer, broader and more varied (and, sometimes, also redundant) information than the investment-driven and thus more targeted information sharing taking place within networks.[19]

Over time, the weak ties provide cognitive alignment, i.e., *social codebooks* of a communal social culture including collective beliefs, values, conventions and language, that significantly assist firms in obtaining and understanding information (Lorenzen and Foss 2003). Clustering also fosters the building of the additionally helpful collective institution of *social trust* (a general willingness to trust other 'insiders'), that are strengthened by the abundant information and the necessity of maintaining a high reputation of reliability to remain an 'insider' (Lorenzen, 2002).

Learning in clusters

Much exchange and creation of knowledge in a cluster will follow market relations along the vertical dimension of the cluster (Håkanson 1987) or through external "pipelines" (Bathelt *et al.* 2002), but more is, perhaps, created along the horizontal dimension of clusters, consisting of firms with similar capabilities and performing alike tasks in parallel.[20]

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potential to reach customers (often supported by cluster-based branding or reputation effects) and a supportive infrastructure and institutional endowment.

[18] Some weak ties are also found among people who meet in industry associations, education institutions, etc., within limited geographical areas.

[19] Grabher (2002) uses the term "project ecologies" about urban clusters of advertising firms with a high density of project relations. However, he does not discuss in any length the spatial clustering of such ecologies.

[20] Marshall's (1890, 1919) initial discussion of the role of variation and his conjecture on the effects of learning along the horizontal dimension of the cluster never really entered the discussion of the cluster before Brian Loasby (1999, 2000) recently reintroduced it (see further Maskell 2001d).

When spatially clustered firms are provided with an arsenal of instruments to obtain and understand even the most subtle, elusive and complex information of possible relevance.

Even when conducting the same activities most firms (i.e. owners, managers and employees) have different perceptive powers, divergent insights and unlike attitudes, just as they will deviate in their valuation of the information at hand and will entertain dissimilar beliefs about their chances of success if using one of several possible approaches to similar problems (Maskell 2001b). Consequently, firms develop a variety of solutions as an intricate part of their daily operations, and clustered firms undertaking similar activities find themselves in a situation where every difference in the solutions chosen, however small, can be observed and the outcomes compared.

While it might be easy for firms to blame inadequacies in local or national factor markets when confronted with the superior performance of competitors located far away, it is impossible to do so when the premium producer is located down the street. The sharing of common conditions, opportunities and threats makes the strength and weaknesses of each individual firm apparent to the management, the owners, the employees and everyone else in the cluster who cares to take an interest. Usually the firms in the cluster care very much indeed, because it is by watching, discussing and comparing dissimilar solutions that they become engaged in the process of continuous improvements on which their survival depends (Maskell 2001d).[21] Promising avenues identified by one firm become available to others without ever reaching the public domain (Marshall 1919, Mansfield 1985).

As long as the firms share a common language and social codebooks ease their interpretation of local events, little partner-specific trust is required as a prerequisite for learning. The sequence of variation, monitoring, comparison, selection, and imitation can take place without any direct relations among firms. This does not imply that firms along the horizontal dimension of the cluster never co-operate by exchanging information, helping each other in overcoming technical problems, lending materials, or initiating flexible relations, swapping surplus capacity. In fact, they may interact regularly, even intimately so, in order to further some particular scheme (Allen 1983). On the other hand, as far as the horizontal learning effects are concerned they might just as well hate each other intensely, never interacting or exchanging anything useful. When it comes to learning along the horizontal dimension of the cluster, the internal degree of direct interaction is of no cardinal importance. The basic requirement is simply that *many firms undertaking similar activities* are placed in circumstances by co-locating where they can monitor each other constantly, closely, with little effort and low information costs. The variation between and among firms doing similar things in a cluster thus promotes the generation of ideas and guides interpretations without imposing uniformity.

Table 1 summarizes the argument made so far.

— INSERT TABLE 1 HERE —

[21] The tendency to emphasise the learning aspect of agglomeration - rather than cost-minimisation - is also reflected in the most recent works on the Italian industrial districts (Bellandi 1996) and on American high-technology industries (Markusen *et al.*1986).

5. Empirical Illustration: The pop music and furniture Industries

The framework set out above allows us to explain the geographical organization (i.e., tendency towards clustering) of different industries by investigating how industry uncertainty and ambiguity translates into firm strategies of participating to organizing markets in clusters.

To illustrate, this section presents empirical evidence from two clustered industries that are different in terms of uncertainty especially regarding the relative importance of cost and time efficiency vs. knowledge creation: the EU pop music and furniture industries.

The two industries are both quite important in terms of employment and value added. In spite of the current alleged "crisis", the global pop music industry has grown by 35% during the last decade, with turnovers rising from USD 27 billion to USD 37 billion (IFPI, 2001), primarily due to technological and stylistic innovations and globalizing markets.

Even if a handful of major US-based record companies and publishing houses dominate the global industry, local firms in virtually all European countries are profit earners in their own right and serve an important role by creating a continuous stream of artistic inputs to the global players (Power and Hallencreutz, 2002).

The EU furniture industry, accounting for just about half the global furniture sales, is one of the largest manufacturing industries in the EU and continues to enjoy high employment, outputs and exports (Lorenzen 1998; Maskell *et al.*, 1998). In 2000, the EU furniture industry had a turnover of USD 96,6 billion and the industry's almost 90,000 firms employed almost 900,000 persons in 1998 (UEA, 2003).

For a traditionally labor-intensive low-tech industry, it is noteworthy that even as the EU furniture industry now faces intense and growing price competition from countries in the former Soviet Block and the Third World its trade balance is still positive. In terms of absolute size, the major EU furniture exporters are Germany and Italy, but relatively small countries like Netherlands, Portugal, Sweden and Denmark all have export rates well above 30% (Lorenzen, forthcoming 2004).
Below, we shall investigate the reasons behind clustering in the two industries, first by looking at how the two markets are organized.

The pop music Industry
The activities within the pop music industry are very diverse with high degrees of specialization and disintegration as well as important differences in terms of competencies. Most important is, perhaps, the difference between "artistic" and "humdrum" competencies (highlighted by Caves, 2000), the first being populated with freelance artists and small "artistic" firms, the second by firms sourcing, marketing and selling pop music consumer products like CDs, but also scores (sheet music) and tunes or jingles for mobile phones, etc. (Andersen and Miles, 1999). While focusing on the latter, "humdrum" pop music

firms[22] we exclude from the analysis firms carrying out a range of "input" activities (OECD, 1997; Castaner and Campos, 2002)[23] where internal economies of scale and in-house skills are significantly more important for competitiveness than market relations.

Even within the "humdrum" segment there are competence divides. In fact, the segment is broken up into a number of specialized firms with dense and complex vertical market relations, because sourcing, marketing and selling music requires competencies that are not easily integrated. These activities usually involve (at least) event and concert firms; media firms; AD (Art Direction) firms; distributors; retailers; publishing houses; financial and legal services; as well as record companies.

The market organization of the industry reflects the high degree of uncertainty in the global demand for the main product: the pop music CD (Huygens *et al.*, 2002; Lopes, 1992). First, the product cycles for CD albums are usually very short (and even briefer for CD singles). Second, consumer tastes are highly unpredictable even for the most skilled and sagacious within the business (Shuker, 2001). Since nobody knows which CD is going to make it big, and since very few products sell on a large scale (Negus, 1992; Vogel, 1998), the strategy applied by end producers of music (i.e., record companies) is to ensure a steady stream of novel products. Any release of music CDs is in a sense an open-ended search process, where new products need to be tested on uncertain consumer markets, over limited test periods. The same goes, albeit to a lesser extent, for new national penetration efforts or marketing methods.

Product innovation in the pop music industry is a process of knowledge creation under uncertainty, through experimentation (Lorenzen and Frederiksen, 2003) and in order to facilitate such knowledge creation, pop music firms use inter-firm projects.

Each new act of knowledge creation, i.e. each new experiment of producing, marketing and selling a new CD is thus built on a new market relation, combining a multitude of partners, including at the very least a record company, one or more artists (some of whom are signed for only one CD), a publisher, an AD provider and often, in addition, media firms and event firms, (some of which are also often used only once or twice).

The market relation is designed as a temporary project relation, with some partners (e.g. AD, media and event firms) participating only in parts of the process and others remaining at the heart of the relation for the project's entire lifespan. The artist remains in the project throughout, as (s)he is needed not only for creating the musical content of the CD, but also for marketing it through live and video performances. The publisher takes care of

[22] Represented (albeit not perfectly) by NACE codes 22140 (publishers of sound recordings); 22150 (other publishers); and 22310 (reproduction of sound recordings).

[23] We hence exclude from the analysis art making (songwriting, performance, and studio production — represented by NACE codes 92310 (performing artists) and 92320 (theater and concert halls, etc.)) and support functions for music making (such as instrument making; equipment manufacture; and software programming — represented (albeit poorly) by NACE codes 24650 (manufacture of prepared unrecorded media); 36300 (manufacture of music instruments); and 51433 (wholesale of CDs, tapes, records, videos). The artistic segment is typically constituted by freelance artists or one-man firms with little focus on profit, and no clear localization pattern. The support segment mostly consists of relatively vertically integrated, technically oriented, firms, again with little obvious clustering compared to the end value chain segment subject to our analysis.

payments (royalties) to the artist and record company after the project is over, but may also sometimes be actively involved in signing artists and finding music content. The most important agent, however, is the record company, which establishes and coordinates the project and involved in all aspects of it. The record company first signs artists — the source of musical content in CDs — and then "pushes" the music through the other parts of the value adding process by signing on firms with supplementary competencies and visions. Some record companies (particularly, the branches of the global majors (EMI, BMG, Sony, Universal and Warner)) do so in virtue of their dominating position in the project, but in other cases where power relations are more symmetric, coordination also hinges on trust among project participants.

There are also often horizontal project relations *among* record companies, because some of them have superior marketing and distribution competencies in certain fields, while others often are more competent in discovering and signing artists. On many national markets, the branches of the major global record companies use smaller national independent firms as "external R&D labs". Such local firms may release national artists themselves, while artists perceived to hold great (global) sales potential are also licensed to major firms in order to utilize their larger marketing power and global distribution channels and sales networks (Darmer, 1999; Power and Hallencreutz, 2002; STEP, 2003).

Over time, project relations in pop music organize the market into relatively stable project clusters, where record companies, publishers, AD, media and event firms keep most project relations local when producing new CDs (Power and Lundequist, 2002; STEP, 2003). Whereas independent record companies, AD and event firms participate to the creation and marketing of a new CD and keep their relations within clusters, major record companies, while participating to clusters, also deal with global distribution and sales and hence often function as gatekeepers to relations outside the clusters (Power and Hallencreutz, 2002; STEP, 2002).

Within such pop music clusters, new project partners can easily be found, because many have worked together in earlier projects. As a result of the high number of finished projects in pop music project clusters, the people who are skilled in coordinating music projects (i.e., the "creatives" or persons responsible for "A&R" (Artist & Repertoire) in the record companies, as well as a number of independent project coordinators) are all found within the cluster. Such experienced people, with know-how and know-who specialized to pop music projects, are central to the coordination (and sometimes also initiation) of CD projects and are always in high demand.

pop music clusters are typically found in the major cities of the world (Scott, 1999; 2000)[24]. Here, we find national branches of major international record companies and publishers, the bulk of AD, media and event firms plus related legal and financial services, as well as many independent record companies and artists. [25] The record companies alone are often

[24] Outside national capitals, project clusters in the music industry are found in selected "creative cities" that are able to attract specialized and highly qualified "creative" labor (Florida, 2002).This pattern of urban clustering is something the pop music industry has in common with other so-called entertainment industries.
[25] Many young artists want to live in the cities, but many of the most successful artists and/or songwriters dwell in the countryside, with no clear localization pattern. These artists are more self-contained in their creative process and entertain fewer project relations (depending more on long-term network relations to

found within a few hundred meters, in the city cores or in other high-prestige areas of the urban cluster (STEP, 2003).[26]

One effect of the clustering of project clusters within the pop music industry is of course that it lowers time costs when running projects. However, the major positive effect of the clustering of people with accumulated experience with project coordination is their many weak ties, that makes information about people's and firms' skills and availability accessible to all local firms. Furthermore, a relatively high level of social trust[27], facilitated by frequent interaction and information sharing among people within and around the pop music industry, lowers transaction costs when new CD projects are initiated (Power and Lundequist, 2002; Lorenzen and Frederiksen, 2003).

The market organization of pop music in clusters is characterized by many 'urbanization economies' that supplement market relations in attracting pop music firms to cities. Artistic inspiration and stylistic information related to production and marketing of pop music heavily depend on global pipelines of people and information, and such pipelines are in practice unavoidably urban. Specialized educational institutions supplying new artistic talent, such as conservatories, or management schools offering "Project Management" or "Music Management" courses targeted at the pop music industry, are only located in major cities. Furthermore, qualified labor is attracted by the diversity and global nature of large cities; and its skills are enhanced there. As many project coordination competencies can only be acquired through hands-on experience, clustering of pop music labor markets in cities is important, as this allows for people to acquire experience through moving between jobs in different local pop music firms (primarily, record companies).

However, pop music clusters also possess distinct 'locational economies' (Malmberg and Maskell 2002), related directly to local clusters of firms with project relations, namely weak ties among people and firms with experience and competencies — with distinct information and social trust effects. Such collective institutionalization is the most important aspect of market organization in pop music clusters.

The furniture industry

As in the music industry, it is furniture firms carrying out the end activities in the value chain[28] that have the highest tendency to cluster, but their reasons for clustering are very

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record companies and publishers), and are consequently less dependent on urban location. By contrast, younger artists often have more different project relations, shifting between labels, bands, performing often, and needing an abundance of weak ties to other artists to inspire their creative process.

[26] For example, a recent study of the Scandinavian pop music industry showed that, when labor market data is used, in Denmark, pop music firms cluster in the Greater Copenhagen, accounting for no less than 46% of all Danish firms within pop music (as defined by the NACE codes specified above). This is significant, as the general concentration of firms — meaning, Copenhagen's share of all Danish firms — is only 19%. A minor cluster of firms was also found around the second largest Danish city, Aarhus accounting for 12% of all pop music firms (STEP, 2003).

[27] The degree of formalization is, however, generally higher in pop music than in furniture. This is due to the importance of Intellectual Property Rights, which necessitate formalization in contracts and stipulations to a higher extent than in more traditional industries, such as furniture.

[28] Represented by NACE codes 361110 (producers of chairs etc.); 361120 (upholsterers); 361200 (producers of office furniture); 361300 (producers of kitchens); 351410 (producers of wooden home furniture), plus (with some error) 203010 (producers of lists); 203020 (producers of construction wood); and

dissimilar from pop music firms. In spite of increased global competition, the size structure of the European producers of finished wooden or upholstered furniture and specialized components[29] - henceforth referred to merely as “furniture” firms - seems relatively unaffected by the wave of vertical integration that has swept through other industries. In the furniture firms, internal scale and scope economies are still rather limited, even though a slowly growing number of European producers have managed to target export markets on a large scale with mass-produced (typically pine wood) furniture. The furniture segment hence continues to consist of SMEs: Specialized suppliers and end producers, with market relations along the value chain, as well as horizontally interwoven (Lorenzen, 1998; Maskell, 1998; Maskell *et al.*, 1998).

To a very high degree, these market relations rest on the organization of markets by clustering. To understand why, we need to look at the demand for furniture.

As in many other consumer industries price matters. The increasing global price competition forces furniture firms to increase cost efficiency. At the same time, globalization allows these firms to scan world markets for cheap suppliers of standard inputs (such as textiles and unspecialized components), which can be bought in bulk. For activities aiming at reducing production costs the furniture firms use spot market relations that are usually not kept locally, but include many far away producers. In order to escape the fiercest head-on price competition the majority of EU furniture firms apply strategies that focus on less price sensitive market segments (Maskell, 1998).

The export markets for EU furniture firms have a medium-level demand uncertainty in the guise of unpredictable volume fluctuations combined with a constantly increasing demand for product varieties. furniture producers need to offer increasingly wide ranges of varieties of their models (in some cases, customize them to one or very few customers) and, furthermore, to be able to deliver quickly and efficiently. Average delivery times are forced down from months to weeks as retailers’ and end customers’ tolerance towards delays rapidly evaporate. In other words, competitiveness is increasingly based on furniture firms' ability to deliver a growing range of product varieties, while maintaining high resource efficiency and time efficiency.

For the bulk of furniture producers, this is done by maintaining a portfolio of flexible relations to specialized suppliers. By being able to call on different suppliers with very short notice, end producers can combine different inputs, allowing them to deliver furniture with quite different characteristics, at delivery times that are often considerably shorter than their large, integrated and automated competitors.[30] Vertical flexible relations are supplemented by less frequent horizontal flexible relations, where firms pass on excess orders to each other.

205110 (turners). The analysis in this section thus excludes production of raw wood, textiles, foam and standardized wood or metal parts (represented by NACE codes NACE 201010 (sawmills); 201020 (protection/treatment of wood); and 202000 (producers of chip and MDF boards)). These industry segments are relatively consolidated, as their firms have for long enjoyed scale economies, and firms are randomly localized (or localized near sources of raw materials, e.g. forests)

[29] It should be noted that many such firms produce both components and end products — making the use of NACE codes even more problematic.

[30] This is the effects of “flexible specialization”, pointed to by Piore and Sabel (1984).

To maintain short delivery times and flexibility, firms depend on an organization of the market in clusters, where furniture firms use each other again and again for both vertical and horizontal flexible relations, sometimes functioning as suppliers, sometimes as customers, sometimes giving favors, sometimes receiving them. Within such clusters of flexible relations, furniture firms also often help others to start up, creating new, specialized firms through spin-offs to the benefit of the entire cluster.

The EU furniture industry is highly clustered.[31] Producers/assemblers of finished furniture and components are often found in non-urban industrial districts, where a high rate of spin-offs from existing firms has created a significant co-location of producers, often in geographical areas spanning only tens of kilometers and a handful of villages. Some of these clusters are found in regions with long craft traditions, like Italy (Bambi, 1998; Lojacono, 1998) some in rather recently industrializing (but still predominantly rural) areas, like in West Denmark (Lorenzen, 1998).

In such furniture clusters, low time and transport costs of course ease both vertical and horizontal flexible relations ("Just-In-Time"), but the most important aspect of clustering is, as in the pop music industry, weak ties. Within furniture districts, being of small geographical size, weak ties (in professional associations as in civic life) are frequent among managers and workers. Apart from lowering search costs (updating local firms on the capacity and quality levels of all local suppliers of furniture components) the weak ties also create transaction cost reducing collective institutions, allowing firms to shift their relations quickly and cheaply.

Weak ties also facilitate knowledge creation — another important competitiveness factor in the furniture industry. Consumer markets (particularly, the medium- and high-end segments) demand ever more frequent product innovations. Most product innovations are incremental, with a genuinely novel model introduced only once every few years, subsequently followed by ongoing adjustments and add-ons to the model design. Such adjustments and add-ons (as well as more genuinely new product designs) are often inspired by gossip and direct observation within clusters, facilitated by weak ties.

Hence, market organization in clusters in the furniture industry rests on 'locational economies': All firms in furniture clusters are specialized within a few and related economic activities and local collective institutions become specialized to support flexible market relations.[32]

Discussion

Above, we have illustrated the different market organization of the pop music vs. furniture industries. Indeed, large segments of these two industries are clustered, because the market relations used by firms in these segments are dependent on collective market

[31] Similar clustering is also found in many other mature, low-tech European industries.

[32] In clusters like industrial districts, we often also find specialized capital and local labor markets. While this may also be true for many furniture clusters, the industry is characterized by relatively low capital needs, and opportunities of training many types of local labor to fit the activities of local firms. Hence, specialized financial institutions, and the ability to attract specialized labor, are factors that are not quite as crucial as they are for the pop music industry.

organization.[33] However, the markets for pop music and furniture become organized in clusters for different reasons. In sourcing, marketing and distribution of pop music clustering rests on a combination of urbanization economies and locational economies supporting project relations, while clustering in the production of finished furniture and components is mainly based on locational economies benefiting flexible relations.
In both pop music and furniture, a crucial aspect of market organization is low costs of information, sustained by collective institutions that are predominantly found in clusters. In both industries, the community aspect of weak ties serves to bring down transaction and switching costs, through information and social trust effects. Hence, this collective institution, which depends on clustering, is a prerequisite for the flexibility that competitiveness within the two industries hinges on.

Furthermore, the collective institutions of clusters serve to enhance knowledge creation, albeit in different ways. In the pop music industry, knowledge creation (being complex and demanding dedicated attention over a specified period of time) requires a dedicated market relation, namely inter-firm projects, while in the furniture industry (where product innovation is an incremental and relatively simple process and where imitation is abundant), flexible relations suffice to facilitate knowledge creation.

The industry examples have shown that an analysis of the market makes little sense without considering social institutions. While the literature refer to a range of beneficial effects stemming from the spatial clustering of firms[34] the present paper has targeted the aspect of clustering of particular importance for the organization of markets. As weak ties, compared to other types of relations among people and business firms, are highly sensitive to geographical distance, firms that depend on this aspect of market organization tend to cluster spatially. We have empirically illustrated that because knowledge creation and resource efficiency depend on weak ties, the degree of clustering is high in both the pop music and furniture industries. In other words, we have argued that the spatial arrangement of these industries in industrial clusters represents one particular form of market organization that, over time and through market evolution, has proven to be advantageous for the performance of these specific kinds of economic activities.

6. Conclusion

The many competing schools of thought concerning themselves with industrial clusters have at least one thing in common: they all agree that clusters are real life phenomena characterized by the co-localization of separate economic entities, which are in some sense related, but not joined together by any common ownership or management. So hierarchies they are certainly not.

[33] In the pop music industry, the upstream segments supplying artistic content and support functions are not clustered, because firms and agents focus on in-house artistic or technical skills; and in the furniture industry, the upstream segments producing raw materials and unspecialized inputs are not clustered, because firms focus on internal scale economies and resource efficiency.
[34] These general advantages of clustering include transport and time cost reduction, training and attraction of specialized labor, and, in recent times, increased incentives for service providers and public policymakers to target their offers at a few dominant economic activity areas,

Yet, it is usually taken for granted that clusters, almost regardless of how they are defined, all expatriate the 'swollen middle' (Hennart 1993) of various hybrid 'forms of long-term contracting, reciprocal trading, regulation, franchising and the like' (Williamson 1991: 80) residing somewhere between hierarchies and markets. This fundamental (but usually implicit) assumption would, perhaps, be justified if markets could be reduced to events of exchange of property rights, between 'large numbers of price-taking anonymous buyers and sellers supplied with perfect information' (Hirschman 1982: 1473), as they are commonly conceived in mainstream economics. One of the original attractions of Neoclassical price theory was precisely that it promised a way of analysing the economy in general and market exchange in particular independently of specific institutional settings.

However, introducing transaction costs as more than fees paid to intermediaries leads inevitably to comparative institutional analysis and, not to be forgotten, to the perception of markets as institutions with specific characteristics of their own. Some sets of characteristics are so common that they represent a specific market organization or market form. The cluster is one such specific market organization that is structured along territorial lines because this enables the building of a set of institutions that are helpful in conducting certain kinds of economic activities.

This paper argues that clusters are markets where commodities, services and knowledge are traded in a notably efficient way among the insiders without restricting their abilities to build pipelines (Bathelt *et al.* 2002) and to interact with suppliers and customers residing elsewhere. The institutions characterizing this market form help creating an environment among insiders that reduces the barriers to acquiring and utilising knowledge produced or used locally.

Supported by the empirical illustrations of two selected industries the analysis undertaken in this paper has enabled us to make five important points:

First, the paper maintains that markets become organized by firms striving to reduce transaction costs in order to enhance the net benefits of their market relations in general and the knowledge creation and resource efficiency in particular.

Second, it concludes that firms tend to choose network formation if the set of dominant suppliers and customers is reasonable stable and co-localisation strategies of clustering when it is not.

Third, it is pointed out how flexibility and temporality in market relations reflect volatility in demand and that clustering often provide the firms with tools to alleviate the consequences.

Fourth, a distinction is made between firms engaged in economic activities best conducted by project-based experimentation - where clusters constitute a competitive market organisation for knowledge creation when demands are ambiguous - and firms on highly volatile and unpredictable markets, where clustering can provide a competitive market form for resource efficiency under facilitating flexibility and adaptability.

Fifth, the paper asserts that cluster institutions can supplement firms' creation of knowledge when interacting with suppliers and customers along the vertical value chain, by enabling learning among rivals and competitors, along the clusters horizontal dimension.

Table 2 summarizes the argument.

— INSERT TABLE 2 HERE —

The empirical analysis has suggested one further aspect of clustering as market organization: The evolution of each individual cluster is never premeditated but rather the complex result of an ongoing interaction between external industry dynamics and the emergence of matching internal institutional settings helpful to firms harbouring divergent visions and pursuing different strategies.

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Table 1

Market Organization

Networks	**Clusters**
Institutional ”arrangement”	Institutional ”environment”
Firms as shareholders	Firms as stakeholders
Strong ties	Weak ties
Club institutions	Social institutions
Trust, sunk costs	Social trust, reputation
Codebooks	Social codebooks

Table 2

Benefits of Market Organization

		Industry conditions:	
		High uncertainty or ambiguity	**Low or modest uncertainty**
Economic benefits:	**Knowledge creation**	Clusters of project relations	Networks
	Resource efficiency	Clusters of flexible relations	