

**The spread of innovation from Science Technology Parks to local economy.
The catalyst role of ComoNExT**

For Work in progress

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Abstract

The main aim of this work is to investigate how a Science and Technology Park (STP) can relaunch a local economy through the spread of innovation. Particularly this paper analyses the capabilities of STP to encourage local operators to undertake innovative activities, and to raise local economy.

The attention is focused on the role of STP in the development of relationships between the main actors of local innovation characterized by different nature (firms, public institutions, universities). At the base of these interrelationships, interaction becomes an important means of gaining and transferring new knowledge, and accessing external resources that are not available in-house (Birley, 1985; Penrose, 1959).

In regional studies perspective, relationships developed in a geographic area can promote a more rapid movement of ideas, supporting the sharing of knowledge, particularly tacit knowledge (Jaffe, 1989; Saxenian, 1994). In this approach spatial environment influences firm's knowledge access, and its capacity for mutual learning (Keeble and Wilkinson 1999; Boschma, 1999).

In industrial network perspective, space, location, place are considered as a set of resources (Håkansson, Tunisini, Waluszewski, 2006; Baraldi, 2006). Furthermore recognizing space as a key dimension of interaction (Håkansson et al. 2009), the existing set of resources can be related in different ways with varied resources at other places. This also generates the outlining of micro, meso and macro level of space (Baraldi, 2006).

In order to analyse how a STP can support the relaunch of local economy, the study investigates the development of an Italian STP and the impact of its activity among local actors. In this way the paper analyses innovative projects promoted by STP that involved several local organizations specialized in living concept. The case is investigated through the analytical tool of 4R model (Håkansson, Waluszewski, 2002, Baraldi, 2002). This work, based on a qualitative approach, is elaborated through semi-structured interviews realized with the key informant referents of STP and projects analyzed. This paper shows how STPs support interconnections between different micro-meso and macro networks generating the development of local actors.

Keywords

Research-business and public relationships, innovation network, Science and Technology Park, regional innovation, resource combination

1.Introduction

More and more meeting the challenges of a global economy means revitalizing the traditional manufacturing industry through innovative processes, providing incentives for the settlement of new businesses, promoting training and attracting different resources in a local geographic area. This requires firms to give particular attention to the process through which firms can access and combine different resources, realizing innovation based on technology transfer.

In an interactive approach, technology transfer can be considered as an interorganisational process of exchange, adaptation, and learning of new technologies (Keeble and Wilkinson 1999; Helmsing, 2001). The process is co-managed and co-realised by different actors, requiring technological and managerial competences combining (Sancin, 1999).

Interaction becomes an important means of gaining and transferring new knowledge, gathering relevant information about new business, finding external support and services, and accessing external resources that are not available in-house (Birley, 1985). The interactions, with processes, procedures and institutionalisation, define the systemic character of resource relationships (De Bresson and Amesse, 1991; Freeman 1991; TiJssen, 1998) and characterize innovation networks (Rycroft and Kash, 2004).

Moreover the sources of innovation are commonly found in the interstices of firms with universities and research laboratories (Debackere and Veugelers, 2005; Clarysse and Moray, 2004). Science is thus able to interact with technological knowledge to which it is linked by recursive relations (Kline and Rosenberg, 1986). Within specific local contexts, universities, government and industry are learning to encourage economic growth through the development of generative relationships (Etzkowitz and Leydesdorff 1997, 2000). As outlined by Fischer and Varga (2003) a key role is undertaken by geographically mediated knowledge spillovers from university research activities.

As emphasized in regional studies the concentration of activities can be supported by decreasing costs, economy of scale but especially by the sharing of tacit knowledge realized through a network local actors (Boschma, 1999). This also highlights the role of learning region as “modes of economic and technological organization” (Asheim, 1996).

Furthermore the development of innovation requires firms to develop relationships with organizations localized in different local area, in order to share and combine resources. The value of heterogeneous resources is dependent on how set of resources are combined generating firm’s development (Håkansson and Waluszewski, 2002). In business network approach, place may be considered as a combination of technical and organizational resources since it incorporates other resources. In addition to this place is investigated as position analysing resources of a firm in relation to those of other firms, localized in micro, meso and macro space (Baraldi, 2006).

In this context the main aim of this work is to investigate how a Science and Technology Park can relaunch a local economy through the spread of innovation. Particularly this paper investigates how STP encourages local and economic operators to undertake innovative activities, and to raise local economy. The attention is focused on the support provided by STP in the development of relationships between the main actors of local innovation that are characterized by different nature (firms, public institutions, universities) investigating the potentiality of regional network and its interconnection with actors that belong to different micro-meso and macro network.

The paper is structured as follows. After a review of innovation in local geographic area and its interconnection in innovation network as a whole, the paper presents its research approach. Subsequent sections then introduce the study, and present the case. A discussion follows, and the paper ends with conclusions.

2.The development of innovation: geographic embeddedness vs resource embeddedness

Geographic embeddedness has played a key role in innovation process, promoting economies of time, agreements, and complex adaptation. Geographic environment influences firm's development and its capacity for mutual learning (Keeble and Wilkinson 1999). Through the cooperation with several actors localized in the same area firms access to an extended knowledge base that increases their capacity for innovation (Archibugi and Lundvall, 2001). Spatial dimensions increases innovative environment founded on dynamic and creative synergies, so characterising the competitiveness of cooperative firms agglomeration (Saxenian, 1994) as well as the cooperation among firms, public institutions and research centres (Etzkowitz and Leydesdorff 1997, 2000).

Moreover innovation process (Lundvall, 1995) is founded on interactive learning that requires not only geographic localization but also collective entrepreneurship (Malecki and Oinas, 1999). In this way the development of relationships among local actors characterizing regional networks creates new forms of learning and production that involves local firms, institutions and research centres. The combination between local relationships and interconnected relationships that overcome regional and national borders generates innovation for local actors.

As emphasized by regional studies, the accessibility of knowledge is bounded by geographic dimension (Jaffe, 1989, Acs, de Groot, Nijkamp, 2002; Acs and Varga, 2002; Varga, 2000; Varga and Schalk, 2004; Saxenian, 1994; Sternberg, 1999).

Relationships developed in a geographic area can promote a more rapid movement of ideas, supporting the sharing of knowledge, particularly tacit knowledge (Becattini, 1987). This latter one is different from already established knowledge (e.g. scientific publications and patent applications) that is available without restriction. The local dimension of the tacit knowledge involved in technological externalities also influences the geographical agglomeration of R&D activities (Audretsch and Feldman, 1996).

As knowledge is so distributed across space within countries (Acs and Varga, 2002), economies become more geographically specialised (Fujita, Krugman and Venables, 1999) and important elements of innovation tend to become regional rather national (Acs, de Groot, Nijkamp, 2002). The regional context supports innovation facilitating the formation and transmission of social capital and bringing out the emerging of regional system and regional capabilities (Maskell and Malmberg 1997), which are based on non-codified know-how acquired through learned behaviour. Furthermore firms and other public and private organizations belong to a specific Region are characterized by a technological and organizational learning process in a territorial context, outlining the emerging of network regional innovation system (Cooke, 2001).

In a system of innovation knowledge is bounded by the nature of interactions among actors (Dosi, 1988; Oinas and Malecki, 1999). Through interactive learning, firms outline geographic areas in which knowledge is embedded not only in individual skills, routines and procedures, but also in the relations that connect firms to each other and with the institutional reference. This also emphasizes the key role of learning region (Asheim, 1996).

The regional dimensions are also evaluated by the Groupe de Recherche Européen sur les Milieux Innovateurs (GREMI) (Crevoisier and Maillat, 1991). Relationships are mainly informal and tacit the identity of milieux overcomes the identity of each partner (Camagni, 1991): the milieux are collective rather than co-operative. Collective learning is so defined as a dynamic and cumulative process of knowledge production, transfer and appropriation, taking place through the interactive mechanism of the milieux (Acs, de Groot, Nijkamp, 2002). An innovative milieu is defined as a set of relationships happening on a limited

territory, encompassing in a coherent way a production system, different economic and social actors, a specific culture and a representation system, and generating a dynamic process of collective learning (Camagni, 1991). Moreover the study of GREMI highlights dynamic connection between the milieu and the global environment.

The interrelationships between different levels of space are well emphasized by scholars of industrial network approach. In this approach place is considered as a feature of resources, appearing as an embedded dimension (Baraldi, 2006). Products, facilities, organizational units and business relationships acquire space-related features from the places with which they are associated (Baraldi, 2006: 301). Places can both enable and constrain inter-firm interaction and resources combination. Considering the dynamic feature of place, this one influences different resources and is generated by a combination of the same (Håkansson, Tunisini, Waluszewski, 2006). The interaction with places happens through the resources that firm handle daily (Håkansson and Waluszewski, 2002). The features of heterogeneous spaces become embedded in the resources related to locations. The analytical scales of space are divided in micro, meso and macro spaces. Micro spaces are confined in building, meso spaces range from collections of buildings, macro spaces are extended to whole nations and countries (Baraldi, 2006).

It is possible to make an analogy between position and place that appears as a combination of a set of resources. A business network can be considered to be a space connecting different actors that occupy certain place (positions) (Baraldi, 2006). Every position in a network is based on some resources but it is also determined by the positions of the counterparts and their resources (Johanson and Mattson, 1992).

Consequently the key interactions take place both within focal geographical area but also through connecting resources activated at different places, recognizing both the central role of local area and interconnections among different local areas. Through these interactions the resources activated at a certain place acquire new features. The value of resource depends on how it is combined with other resources and resources of other organisations (Penrose, 1959). Through the development of relationships resources are adapted to each other and features of one resource become embedded into other resources (Håkansson and Waluszewski, 2002).

Space dimension is so identified in an important characteristic of interaction. The position in space affects resources, such as knowledge that are mobilized, the activities that are performed and the intensity of interaction among actors (Håkansson et al. 2009: 38). In this way the activities are characterized by interdependency as consequence of the distribution of activities across the business landscape.

From previous considerations regional network can be considered as a meso network that interacts with other micro-meso-macro networks in order to explore and exploit innovation; actors localized in regional network develop relationship with actors localized in different geographical area in a process of co-evolution.

3. Research Approach

The main aim of this work is to investigate how a Science and Technology Park can relaunch a local economy through the spread of innovation. Particularly this paper investigates how Science and Technology Park can encourage local and economic operators to undertake innovative activities, and to raise local economy. STP stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, firms and markets. STPs facilitate the creation and growth of innovation-based firms through incubation and spin-off processes and provide other value-added services together with high quality space and facilities (IASP, 2002).

The attention is focused on the role of STP in the development of relationships between the main actors of local innovation that are characterized by different nature (firms, public institutions, universities).

Particularly this work analysed the role of ComoNExT (New Energy for the Territory), an Italian STP localized in Lombardy Region.

Como NExT has been chosen as emblematic case of STP's role in the development of local economy. Differently to the most Italian STPs, at first the starting activity of Como NExT is focused on promotion of regional innovation and then later on support provided to firms that localize their research activity in the area of Park. At the beginning the attention of STP is based on development of local-regional firms and then focused on hosted firms.

This case study is part of a research project whose objective is to investigate the support of spatial relationships in technology transfer, concentrating on STPs and firms' network. The task of the analysis is to construct the context and boundaries of phenomenon, as theory interacts with empirical observation (Dubois and Araujo, 2004). This research based on qualitative approach is articulated in case studies

The geographic dimension on network innovation has been investigated through 6 STPs that operate in 3 different Italian region: Lombardy, Piedmont and Friuli.

The case studies have been realized through a qualitative approach based on semi structured interviews realized with key referents of Science and Technology Park (General Manager and CEO, Responsible for Technology Transfer, Marketing and communication manager), key referents of firms involved in R&D project supported by STP, and STP experts. In order to develop a general picture, results of interviews with STP experts were combined with secondary data in the form of firms' reports, websites, international documents and trade press. In order to reach the aim, 30 interviews have been realized (face to face, videoconference, mail, telephone). The main interviews were recorded and typed.

Adopting the resource interaction approach (Håkansson and Waluszewski, 2002), the analytical tool used to elaborate the case is the 4R Model (Håkansson and Waluszewski, 2002; Baraldi, 2002; Bengtson and Håkansson, 2008), investigating the resources provided by different actors and the resource combination generated by actors' interaction. The model classifies resources in physical resources (product and facilities) and social resources (organizational units and business relationships) (Baraldi and Wedin, 2006; Baraldi and Strömsten, 2005; Baraldi and Bocconcelli, 2001; Håkansson and Waluszewski, 2002).

Single case study is suitable in this context, considering the high level of complexity and the evolution of boundaries during the analysis (Gummesson, 2001).

In the following section the paper presents the case of ComoNExT, investigating the features of Como district, its crisis and the development local economy through the activity of STP.

4.The case

The ComoNExT (New Energy for the Territory) STP is an initiative undertaken by the Como Chamber of Commerce within the framework of social development projects aimed at boosting the competitiveness of the local economy. This project has been realized to support the development of local economy based on textile weaving silk district in Como and high influenced by the crisis.

The project features a new shared strategic design and participatory governance with a multisectorial approach.

The geographic area: textile weaving silk district in Como

Como district includes 27 Italian municipalities, covering a geographical area of 171 sq km. Silk production in Como province has ancient origins, spread in the sixteenth century, as pre-existing wool crafts diversification. At this stage, the silk production was based on small artisan producers and involved the whole chain of the rearing silkworms and the reeling and twisting of yarn.

The Industrial Revolution transformed fabric craft in Como area, with the construction of twisting and spinning favoured by the presence of water, which operated the energy required for steam plants.

In the second half of the nineteenth century, the mechanization process profoundly changed the organization production, hitherto scattered and dispersed among many small producers.

The full industrialization developed significantly earlier and silk production comes to be one of the most important voices of Italian exports.

The economic depression between the wars and the introduction of synthetic fibres lead to a crisis in the district which reacts by diversifying production into new fibres. These ones are cheaper and not subject to seasonal or fluctuations in production.

In the 1950s, the Como district begins to suffer from international competition, particularly generated by Germany and the Asian countries.

In the following decades the district alternating phases of crisis and recovery related to changes in economic World and International Trade.

Local operators have reacted to crisis through an increased focus on process technology to grow productivity and quality of production, undermined by the growth of Asian, Korean, and Chinese competitors.

The structure of the district tends to change with the emergence of larger players, with growth processes which tend to integrate the various stages of processing, particularly dyeing and printing activity.

The Development of ComoNExT (New energy for territory)

In 2005 the Observatory of District was founded to face crisis with the aim to provide a comprehensive base of information, constantly updated and accessible to all businesses in the district. On the other hand the Observatory aimed to create opportunities for discussion, analysis of needs, and evolutionary perspectives of the district.

The main development programmes were identified in the upgrading of traditional production and strengthening district mechanisms, considering organizational aspects, relationships with market and communication.

In this context new projects feature a new shared strategic design and participatory governance with a multisectorial approach. To manage the projects, the Chamber of Commerce set up a territorial development agency identified in Sviluppo Como. This one was established in 2006 with the aim of revitalizing the economy and productivity of the district by fostering a new entrepreneurship, encouraging strategic industries and driving growth through an innovative and technologically advanced approach. As a matter of fact, Sviluppo Como combines a strategic planning vision with a strong financial and execution capacity.

In 2007 Sviluppo Como founded the consortium ComoNExT (New energy for territory), with the purpose of creating and managing the STP, attracting innovative and high-tech businesses in a setting where laboratories, research centres, act as catalysers and facilitators for cross-fertilization. ComoNExT provides information, assistance and advisory services to local

companies and promote the transfer of technology from universities and external R&D centres to the businesses.

In this context ICOMO is responsible for the operational management of ComoNExT. ICOMO is a division of the Scientific Culture Centre, set up by the Como Chamber of Commerce in 2005. In performing its operational management activities, ICOMO has established a close relationship with the Milan Polytecnic Foundation as well as with the business incubator of the Como branch of Milan Polytecnic.

ICOMO born as “factory of idea” specialized in technology transfer and dedicated to firms localized in the territory. Among services provided, ICOMO organizes periodical meeting between firms and university to realize technology scouting. Firms can test their business idea and market sustainability. Services provided are related to the process from idea structure to idea prototyping. ICOMO facilitates relationships between firms, public institutions and research centres.

The ComoNExT (New Energy for the Territory) STP, is so identified in a technological and scientific hub, by restoring an abandoned industrial site, and that hosts business laboratories, research and company innovation centres and fully innovative businesses, in spaces equipped with technological services. Also support services (reception, cleaning, security, etc.) are shared. Como NExT supports initiative designed to encourage and assist the start up and incubation of fast-growing, technology-based innovative businesses by providing them with leading-edge infrastructures; support services to liaise with economic development agencies; links with universities and research centres; technology transfer and support for the management of SME’s. The most sought-after companies are those operating in the automation sector, in domotics, research and production of alternative sources of energy as well as materials and nanotechnologies research.

The STP is localized in the previous site of cotton mill, founded 1895. The company employed up to 1000 people and closed in 1976. Until 2006 the buildings were used for production activities. The development of STP is supported by features of local dimensions. ComoNExT is located in Lomazzo (Como), in a strategically important area for the development of Lombardy, both from a geographic and an economic viewpoint

ComoNExT STP is focused on knowledge sharing and innovation development. The aggregation of resources and energies in STPs boosts the flow of knowledge and technology transfer among universities, R&D institutes, industrial companies and markets. The sharing of resources fosters the establishment and development of innovation-based enterprises through business incubation and spin-off processes, and it provides value added services, facilities and structures to strengthen the competitiveness of local businesses.

Systems for a safety-secure, accessible and sustainable home living context

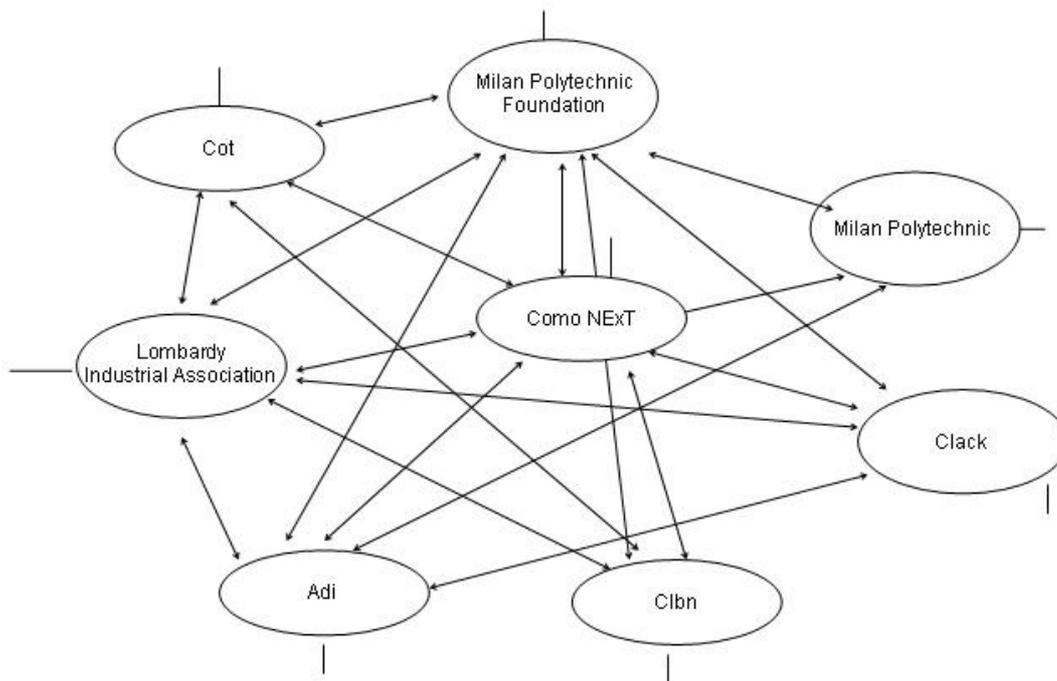
ComoNExT is the leader of the regional Driade/Dafne project that involved Milan Polytecnic Foundation, Milan Polytecnic, Clack - Old Wood Furniture, CLBN - Job Center North Brianza, ADI - Industrial Lombardy Design Association, and Lombardy Industrial Association, COT Centre, founded an Organizing Committee. This one consists of 95 subjects (of which 70 SMEs, three large companies, 4 universities and research centers, 4 associations, 4 trade unions, 4 business consortia, 4 service centers, a development agency and 5 public institutions).

This project, that involved heterogeneous firms and organizations focused around all aspects of living concept, stems from the need to encourage and support new forms of association between production systems and firms. The players operate in the wood-furniture, accessories for furniture, and fabrics for furniture, home automation systems, security systems, home energy systems, sensors and wireless networks. The main aims of the project are to

improving the quality of life in terms of security and autonomy, pay attention to pollution and environmental impact, as well as to the dimension of values and features of territories involved. This new system will allow to increase the competitiveness of an industry such as wood-furniture and textiles to furniture (often slow to innovate); to promote new areas such as home automation or home care; to create a new sensibility in terms of ergonomic design both as regards environmental sustainability and security. This aggregation supports a series of actions and investments shared by multiple actors. The plan allows collecting members' ideas for projects with the support of the Organizing Committee that will turn into calls for subsidized loans.

In this project the main actors provided different resources to develop interrelated relationships (see figure 1)

Figure 1 the network of project



In order to realize the project, Como NExT develops relationships with all actors involved. The main relationships among other actors are referred to relationships between Milan Polytechnic Foundation and Lombardy Industrial Association and other firms; those relationships between Cot and Clbn, as well as relationships among Milan Polytechnic Foundation and other organization (see table 1).

Table 1 – Resources provided vs. resource combination

Primary actors involved	Social resources	Physical resources	Resource combination
ComoNExT	Coordination competences Promotion of innovation culture capabilities Promotion of new entrepreneurs capabilities Relationships to Milan Polytechnic Foundation, Milan Polytechnic, Clack, Clbn, Adi, Lombardy Industrial Association, Cot	Technological services Support services (reception, cleaning, security) Coordination equipment	Driade/Dafne project new forms of association between production systems and firms
Milan Polytechnic Foundation	Support for economic and cultural development capabilities Competences in increasing firm's innovation and competitiveness Relationship to ComoNExT, Milan Polytechnic, Clack, Clbn, Adi, Lombardy Industrial Association, Cot	Research and technology transfer equipment	
Milan Polytechnic	Research competences Training capabilities Relationship to ComoNExT, Milan Polytechnic Foundation, Adi	University Laboratories Research and didactics equipment	
Clack	Training and design capabilities Promotion and communication capabilities Relationship to ComoNExT, Adi, Lombardy Industrial Ass., Milan Polytechnic Foundation	Web services Books Data base Multimedia laboratory Technological equipment	
Clbn	Competences in support work in territory Relationship to ComoNExT, Milan Polytechnic Foundation, Lombardy Industrial Ass., Cot	Data base Training laboratories Software for elaboration	
Adi	Products and services planning capabilities Design capabilities Relationship to ComoNExT, Milan Polytechnic, Clack, Lombardy Industrial Ass., Milan Politechnic Foundation	Historical collection Exhibition Collection equipment	
Lombardy Industrial Association	Enhancing free enterprise capabilities Promote territorial development capabilities Consultancy competences Relationship to ComoNExT, Cot, Milan Polytechnic Foundation, Clack, Clbn, Adi, Cot, Milan Polytechnic	Documentation Reports Conventions equipment	
Cot	Competences in providing specialised services to companies Promotion of research project capabilities Relationship to ComoNExT, Clbn, Lombardy Industrial Ass.	Laboratory Training services Certification equipment Environmental system equipment	

ComoNExT provides coordination competences, promotion of innovation, culture capabilities, and promotion of new entrepreneurs capabilities.

Clack - Old Wood Furniture, thanks to its highly qualified internal staff and a close-knit network of national and international collaborators, offers a variety of services directly to the companies of the Wood/Furniture industry. In addition to this CLBN - Job Center North Brianza, brings in the project its specialization in supporting work in territory.

Furthermore ADI - Industrial Lombardy Design brings by professionals, researchers, teachers, critics, journalists around the main topics of design: project, energy consumption, recycling and training. ADI has a leading role in the development of the industrial design as a cultural and economic phenomenon.

In addition to this, Lombardy Industrial Association is a free association business that is committed to protecting the interests of member companies, the promotion of enterprise culture and the promotion and development of firms. COT Centre, founded on the initiative of entrepreneurial and trade associations, public authorities (Chamber of Commerce, Province, Municipalities) and local banks, provides specialised services to companies throughout the whole chain of the textile and clothing industry.

The development of interconnected relationships among actors that belong to different geographic area generates the realization of the project and so the development of innovation. Furthermore STP supports the development of relationships between local firms and international firms. Through SME² project STP encouraged SMEs to undertake training (VET - Vocational Training and Education) in mobility. The project is based on training periods for employees of SMEs (firms with fewer than 250 employees) within firms, that want to adopt proven methods for research topics and development and to promote the adoption in the field of VET. ICOMO cooperates in consortium with INNOVAFOR partner and coordinator for Portugal and Foundation for Promotion of Entrepreneurship, partner for Poland.

In addition to this ICOMO cooperates to the development of Innovation Community Como-Ticino, that brings together companies, universities, research centers and technology centers located on both sides of the Swiss-Italian border, with the goal of becoming a landmark immediately usable by companies in the regions of Como and Ticino. The innovation community aims to support local firms in innovation development through training, sustain in feasibility studies and support in start up creation.

5. Discussion

The ComoNeXt case suggests several considerations regarding the role of STP to support the development of local economy generating the spread of innovation in local geographic area.

Firstly, the results demonstrate that STP supports the relaunch of local area facilitating the relationships between public, private and academic actors. Through these relationships actors share different resources that can be transformed/combined through interaction.

The co-localization of these actors in the same local area supports the sharing of knowledge between firms and university, as well as their cooperation for R&D project (Debackere and Veugelers, 2005; Clarysse and Moray, 2004; Fischer and Varga 2003)

In this context STP that is founded by public organizations, research centres and local firms shows its role of intermediary between these actors. This intermediary role is related to resources shared and combined. In the project analysed university (Polytechnics and Polytechnic foundation) provides research competences and training capabilities. Lombardy industrial associations bring in promotes territorial capabilities and consultancy competences. Local firms provide different resources: Clack (i.e.) brings in design capabilities, web services, data base, multimedia laboratory and technological equipment while Clbn provides training laboratories and software. Furthermore Adi brings in design capabilities and exhibition collection equipment. In this project STP provides coordination competences, promotion of innovation capabilities, and support to new entrepreneurs. It also provides technological services, support services and coordination equipment.

Going more in depth each actor takes a key role in the development of regional economy:

Firms generate and test business idea; university develop applied research; public institutions orient the specialization of local economy through public announcement and local guidelines. The interconnections among these actors are supported by STP and outline the innovation regional network (Maskell and Malmberg 1997; Cooke, 2001).

Moreover the interconnections among nodes overcome geographical dimensions emphasizing the specialization dimension. In the project network each node is specialized in safety and security sustainable home living context. The main aim of the project is to support the competences synergies in a new approach of design and realization of products and services for home living context. Consequently the regional network outlines a meso-network that is interconnected with other micro-network (STP's area) drawing up the innovation network as a whole.

In order to develop innovation firms activate and reinforce relationships with actors localized in different geographical area but characterized by the same specialization. These firms present the same perspective, overcoming geographical horizon to adopt wide network horizon (Holmen and Pedersen, 2003). In network perspective the horizon is outlined by firms with which the focal firm operate. These firms can operate in the same structure, in the same Region but also in international area. In the same perspective the actors belonging to the network context that are considered as key actor for focal firm belong to regional area but also to international area.

With reference to the case, in the last decade the interest of private and public actors converge on the necessity to support the relaunch of local area and its local firms. In this way the District Observatory was founded to better analyse the contextual situation and to underline the evolutionary process. On the base of these primary results Como Chamber of Commerce founded Sviluppo Como with the aim of revitalizing the economy and productivity of the district by fostering a new entrepreneurship, encouraging strategic industries and driving growth through an innovative and technologically advanced approach. The support of Como Region becomes very important for the development of SMEs localized in the geographic area promoting the development of STP as technological and scientific hub. The main aims of Como NExT are to support the development of relationships among firms, public organizations (such as Como Province, Como Chamber of Commerce, Lomazzo municipality, Industrial Association, Cariplo Foundation), and universities and research centre (such as Milan Polytechnic, Polytechnic Foundation, Scientific Cultural Centre). A key role is also developed by Sviluppo Como and ICOMO to cooperate with Como NExT consortium.

Furthermore the hub Como NexT can host business laboratories, research and company innovation centres and fully innovative businesses, in spaces equipped with technological services. Also support services (reception, cleaning, security, etc.) will be shared. In this way the co-localization in the same building structure and the use of the same structure facilitate synergies among hosted firms. We can observe in this case the dimension of microspace.

At the beginning ICOMO and STP are more focalized on regional area while the organization foreseeing relationships specialized in the same topic in regional, national or international area. Through relationships actors share and develop key resources. The interconnections managed by STP support the development of home living network that is based on interconnection between different micro, meso and macro networks.

In this way, Italian research centre and Italian university cooperate with research centres and university localized in Swiss, through cross border cooperation (innovation community for firm innovation). The main aim is to realize the Innovation Community Como-Ticino facilitating local firms-organizations to generate innovative business ideas.

Furthermore financed by EC, SME² allows evaluating support tools for SMEs that are based on national net to collect information from SMEs. The benefit is not only for firms involved

in the project but also for all firms localized in the Region and that can operate in the community. A key attention is also recognized to relationships with other STPs and other centres specialized in technology transfer.

These considerations generate the following propositions:

P1: STP supports the relaunch of local economy facilitating relationships among local actors characterized by different nature (private, public and academic) through which resources combination generate innovation.

Interconnected local relationships outlines regional innovation network considered as meso network.

P2: In exploring/exploiting innovation the combination of local relationships with relationships that overcome regional and national borders generate the development of local actors. The STP supports interconnections among different micro-meso and macro network promoting the spread of innovation.

Going more in depth the development of ComoNExT is a key driver to overcome the closed approach of traditional industrial district. The crisis of this one required the attention of public and private actors that, together with academic and research actors, outline the new evolutionary trajectory identified also in new specialization area that overcome geographic border to generate benefit for local area.

Analysing Como NExT, the activities of STP can be considered belonging to a path of investigation about the future of district. In the middle 2000, the main options for district have been defend the “status quo” limiting the damage and wait for recovery; strengthening relationships with customers, exploiting the know-how and textile becoming partners “irreplaceable” in innovation processes; and strengthening the business networks. The business innovation outlined is finalized to support system for the existing production chains, and the emergence of new area consistent with the issues of sustainability, accessibility, and energy efficiency. The main aim is to support local development, promoting the establishment of new programs that are both able to offer attractive opportunities for new generations and support the growing of companies in Como that belong to manufacturing industries (textiles, wood and furniture, etc..).A particular attention is given to a public awareness and behaviour strongly oriented to criteria of environmental sustainability to initiate specialized research activities.

These considerations can be synthesized in the following proposition:

P2: The crisis of district can be overcome through the activity of STP that supports the co-evolution of three main key actors (firms, research institutes and public organization) at local, regional and international level.

6.Conclusions and managerial implications

This study has used an examination of the development of ComoNExT to illustrate how a STP can relaunch the local economy supporting the spread of innovation.

This innovation is based on knowledge and technological regional spill over (Jaffe, 1989, Acs, de Groot, Nijkamp, 2002; Acs and Varga, 2002; Varga, 2000; Varga and Schalk, 2004; Saxenian, 1994; Sternberg, 1999) as well as the interaction of resources that characterize different places (Håkansson, Tunisini, Waluszewski, 2006; Baraldi, 2006; Håkansson and Waluszewski, 2002).

As outlined in the case, STP aims to improve innovation regional communities by promoting a culture of innovation of local businesses. STP supports the creation of new businesses as well as consortia of SMEs, to develop new ideas and implement technology transfer. STP provides services for incubation and to attract R&D departments of medium-sized enterprises. In addition to this STP adds value to mature companies and assisting them in the systematic use of technologies.

Supporting innovative project STP enhances the synergy between scientific research institutes, firms and local institutions. In this way the key factor of STP is to facilitate and reinforce relationships among these three main actors. The co-evolution among these actors is based on interaction through which resources are transformed (Håkansson, Tunisini, Waluszewski, 2006; Baraldi, 2006; Håkansson and Waluszewski, 2002) to explore and exploit innovation. The combination of resources, generating relationships that overcome regional and national borders, creates benefits for local area. In the same perspective regional network as meso network develops interaction with other micro-meso and macro facilitating the spread of innovation in the network as a whole.

This paper presents limitations that can become starting point for further research. It could be interesting investigate other STPs and related R&D projects to deepen different dyadic relationships among STP, firms, university and public institutions. Going more in depth it could be investigate the influence on local economy exercised by different public actors such as Regions, Industrial Associations and municipalities that operates in different countries.

Considering managerial implications this work emphasizes the key role of STP as mediator of relationships between firms and university that could be of interest for policy maker focalized on regional development. STPs could provide key information of firms' and university' needs that policy maker can take into consideration for effective regional development plan.

Summarizing, to explore/exploit innovation the interrelationships among actors overcome geographic dimension and are based on research and industrial specialization. In this way each node belong to regional network take benefits from interconnected relationships supported by STP that as a catalyst of innovation transfers innovation between meso (regional area), micro (hosted firms) and macro networks.

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