The key role of knowledge intermediaries in the co-managed Innovation

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Competitive Paper

ABSTRACT

Focusing the attention on the relational perspective of knowledge transfer, the purpose of this paper is to deepen the role of the Incubators and their innovative business model.
The research results are mainly ascribable to the ability of the Incubators, together with their Science Parks, to facilitate the sharing and combining of heterogeneous knowledge among firms, universities, public institutions, and other stakeholders. As outlined in the two cases analysed, the Incubators stimulate the Innovation development through networking solutions to those problems that may occur in the early stages of a company, overcoming the traditional perspective of real estate services. Furthermore Incubator that is located inside the Science Parks can provide a wider network of knowledge and relationships to its start up. From this perspective Incubators and Science Parks support the transition from geographic proximity to relational proximity in the knowledge transfer context.

KEYWORDS
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1. Introduction

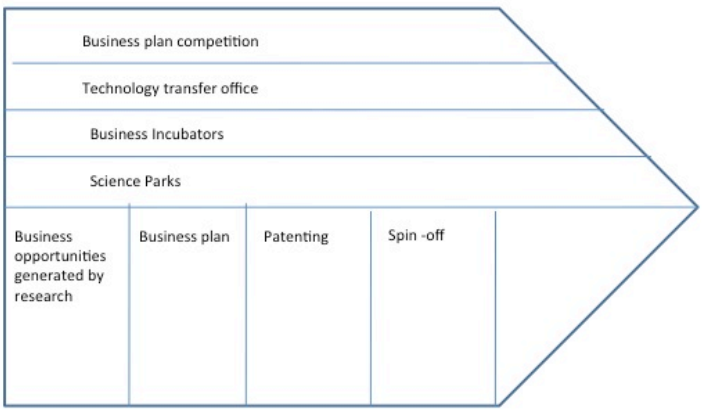
The collapse generated in several industries by economic crisis requires firms, in particular Small and Medium Enterprises (SMEs), to look for better competitive strategies. In this scenario, more and more, a competitive advantage could be reached through innovation supported by networking strategies.
In a complex and highly competitive global market, companies have to innovate and develop commercially viable products and services faster than ever. To meet these new challenges, companies adopt new approaches to their innovation strategies and processes (OECD, 2008). Firms are increasingly opening their innovation processes and collaborating on innovation with external partners (suppliers, customers, universities, etc.) (OECD, 2008).
In this context, the relationship between the research and the business has often materialized in urban space characterized by the conditions for the development of new entrepreneurship: entrepreneurial skills, open spaces, advanced services and capital. As suggested by Geels (2005) Innovation Systems can be defined and analyzed at various levels, including national, regional and sectoral level. Moreover in last years SMEs in particular have to face the challenges generated by globalization, focusing on the mobilization and sharing of resources and market competences of other actors in international context. Any relationship, and thus innovation performed within relationships, is heavily dependent on developments in a large range of both direct and indirect relationships (Johnsen and Ford, 2000).
Going more in depth, the transformation of a business idea into a new business requires new skills, knowledge, new competences and capabilities and an entrepreneurial vision that could overcome geographic boundaries. In this knowledge transfer process, the Incubators are focused on supporting start-ups and innovative companies helping them to develop their business.
The main aim of this paper is to investigate the interconnected relationships supported and promoted by Incubators in the development of knowledge transfer. The paper analyses the strategies adopted and the services provided to the start ups and other organizations by Incubators located, and not located, inside a Science Park.
The empirical context of the research is related to two Italian Incubators. Innovation Factory is the "first mile incubator" of AREA Science Park that supports future entrepreneurs interested in creating their own business plan, and cooperates with them to transform an innovative idea into a business. Differently H-FARM, not located inside a Science Park, is a Venture Incubator that operates on the Web, Digital and New Media, encouraging the development of innovative start ups.
Both Incubators have undertaken a key role in the process of knowledge transformation into economic value that is identified in innovation (Dosi, 1988).

2. Knowledge exchange and Relational Proximity

More and more the co-operation has become an important way to share knowledge resources in order to generate new ideas and bring them to the market (Chesbrough, 2003).
The creation of knowledge by a firm depends not only on what the firm realizes, but also by what firms do to each other (Antonelli, 2000). In this point of view, the geographical concentration of industry, and therefore the regional specialization, encourages the spill over of knowledge between businesses, stimulating the growth of local industry (Glaeser et al., 1992) and the development of Regional capabilities (Maskell and Malmberg 1997).
Notwithstanding, the relationships between organizations are taken not only in the closed geographical proximity, but over in communities (Cowan and Foray, 2000) that are founded on complementary elements focused on geographical aspects but also on economic and social

point of view. In particular the knowledge relationships are narrow in specific epistemic communities and communities of practice that involve a number of actors, linked among them by sharing the same profession or the same knowledge framework (Amin and Cohendet, 2004; Cowan et al., 2000).
The communities of practice, and epistemic communities, support a collaborative approach in the process of the knowledge transfer and knowledge diffusion (Newman, 2002). In a traditional perspective, in the hierarchical linear model, the knowledge is generated by a university and used by a firm. Traditionally the linear model of technology transfer, founded on knowledge transfer, is considered a progression of activities that range from the idea generation and its technological development to patent protection and market. In this process, the universities and firms work independently without coordinating their efforts (Rosenberg, 1982).
Taking into consideration the Porter's value chain (1985, 1996) going to break down the process of identifying individual basic activities that contribute to the creation of added value, the model outlines the interrelationships between several activities (Figure 1, Compagno and Pittino 2006).

Figure 1 – The Knowledge Value Chain



The primary activities, related to the flow of material and cognitive processing applied to a specific object, include the processes from generation opportunity to the commercialization of products or services. The first step of the evaluation process involves the recognition of opportunities into research findings and the transformation in marketing solution. The second stage refers to the analysis of the opportunities and business ideas. The enhancement process could involve patenting that may also form the basis for a spin-off. The scientific research can generate new entrants to the market (Chesbrough et al., 2012).
The support activities, providing resources and procedures necessary to support and facilitate the primary activities, are related to Offices for the Technology Transfer (TTO), Incubators, Science Technology Parks and business plan competition (competition for innovative ideas). The Offices for Technology Transfer support the process as the interface between universities and external environment. The Incubators are considered as organizations that support new business development. According to Hackett and Dilts (2004), a business incubation center is

defined as “a shared office space facility that seeks to provide its incubatees (the ‘tenants’) with a strategic, value-adding intervention system of monitoring and business assistance…”. The Incubators provide new business initiatives that can help start ups to be born and to grow by offering physical spaces and specialized services such as administrative and organizational areas, recruiting qualified personnel, providing assistance in business development and providing contacts to attract investments by venture capitalists. Often incubators are located inside the Science Parks that support the Innovation process for tenants and other actors involved in R&D projects and more in general in innovative projects.
The Science Parks facilitate the creation and growth of innovation-based firms through incubation and spin-off processes and provide other value-added services (IASP, 2002). Science is an important source of innovation – however not automatically, but with the help of a supporting innovation system consisting of transfer organizations (Powell et al., 2005).
In particular, we can depict the value constellation that is made up of different actors that are linked by relationships. This emphasizes the importance of cooperation among different kinds of stakeholders, such as public authorities, users, industry, consumers and “poles of excellenc” (Lundvall & Nielsen 2005, Cooke et al., 2006). New areas of commercialization of research can be created through interaction between science and industry (Edquist, 2005) on the basis of the process of exchange and mutual learning that involves firms and univeristies (Helmsing, 2001).
The co-managed Innovation is founded on several interconnections that are developed between organizations characterized by a different setting (pubblic, private and academic). As outlined by Triple Helix Model (Etzkowitz and Leydesdorff, 2000), in specific local contexts, the three organizations work together to encourage economic growth and “generative relationships”.
The Innovation is co-managed and co produced with the involvement of different actors that require a combination of heterogeneous competences (Sancin, 1999). Firms are specialized in their core competences and develop relationships to access external and complementary resources. The outsourcing becomes very importat for small businesses that otherwise would not be able to have the resources they need. Scholars are paying more and more attention in the involvement of various organizations, outlining open business model for the new innovation landscape (Chesbrough, 2003). Organization should consider the interests of those who have stakes in its activity, as well as firm pursues its interests through managing relationships with stakeholders (Freeman, 1984).

3. Innovation and Knowledge Relationships in the IMP approach

The development of innovation requires continuous interactive learning (Malecki and Oinas, 1999) based on collaboration and related to the creation, exchange, and combination of knowledge (Håkansson and Johanson, 2001).
Innovation is an entity within a multidimensional and interdependent business landscape defined in terms of relativness, motion, and variety (Håkansson and Olsen, 2011).
In the joint learning process the actors are linked through relativness. The driver of continuous learning is identified in the interaction through actors that activates and maintains a complex set of relationships between activities, resources and other actors (Håkansson and Olsen, 2011).
Differently to the competitive arena, the rainforest metaphor adopted by the Industrial network approach emphasizes the key role of inter-organizational relationships, founded on collaboration, with different actors in order to share resources (Håkansson et al., 2009). In this world the interacting companies, organizations and academic research units are mutually

dependent for their long–term existence. The features of resources are developed in relation to each other, and activated in certain interfaces, create a need for a co-ordinated activation of resources among customers, suppliers, competitors, authorities (Håkansson and Johanson, 2001; Håkansson & Waluszewski, 2002,2007; Corsaro et al., 2012).
Interaction provides firm with opportunities to take advantage of an economic context that is carachterized by heterogeneous and distant potentially cooperative counterparts. What happens between two firms may bring them closer to some other interaction processes and more distant from other. Based on the network position and relationships, each organisation identifies a different network horizon (Holmen and Pedersen, 2003). It is possible to make an analogy between position and place that appears as a combination of a set of resources (Johanson and Mattson, 1992). A business network can be considered a space connecting different actors that occupy a certain place (i.e., positions). Every position in a network is based on certain resources, but the network is also defined by the positions of the counterparts and their resources.
Consequently, the key interactions take place both within the focal geographical area and through connecting resources activated at different places (Håkansson & Waluszewski, 2007, Waluszewski et al, 2009, Ingemansson and Waluszewski, 2009).
Based on this perspective, a regional network can be considered a meso network that interacts with other micro, meso, and macro networks in order to explore and exploit innovation; actors localised in the regional network develop relationships with actors localised in different geographical areas through the process of co-evolution (Baraldi et al, 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 focal role of the resource interfaces implies that the use of knowledge in a business setting concerning how resources are used and how they are combined with other resources in the using process (Håkansson and Waluszesky, 2007).
The space dimension depicts how each single interaction is in relation to others and provides the focal interaction with an extended context. Nor is it limited to the geographical, cultural, industrial or intellectual boundaries (Håkansson et al., 2009: 260). The spatial aspects of a network mean that companies engaged in the development of new combination of resources and the design of new activities invest in relation to each other in terms of adapted activies and resoruces and also in terms of knowledge about each other. Through the rainforest metaphor thousands of different species adapted to a life side by side (Håkansson et al. 2009). The same organizational culture helps businesses to support a shared vision within the organizations as it creates a commitment to the organization and its aims (Håkansson, 1995).
The firm considered to be part of a network whose boundaries are influenced by the space-relations from a relational proximity is thus founded on the shared vision (Cantù, 2010).

4. Research Setting

The main aim of this paper is to investigate the role of Incubators in the process of knowledge transfer. This work goes more in depth in the analysis of networking supported by Incubators, that often are located inside a Science Park, and that characterizes their innovative business model.
The research is based on a qualitative approach. These case studies are part of a research project whose objective is to investigate the support of relational proximity in innovation development.
After a pre-understanding phase, which consisted of collecting the primary and secondary data in order to select Science Parks and Incubators on their peculiarities in technology

transfer and innovativeness, results of interviews with Incubators and Science Parks experts were combined with secondary data. 80 in-depth semi-structured interviews (face-to-face, e-mail, videoconference, and phone interviews) were conducted in the research project, with 10 being referred to the case studies.
The main objective of the analysis is to construct the context and boundaries of the phenomenon as theory interacts with empirical observation (Dubois and Araujo, 2004). The research development is based on a systematic combination of the continuous interaction between theory and the empirical world (Dubois and Gadde, 2002; Piekkari et al., 2010).
The case studies approach enables us to study contemporary phenomena in a real-life setting characterized by blurred boundaries between context and phenomenon (Eisenhardt, 1989; Yin, 2003).
The research analyses emblematic Italian cases:

- Innovation Factory the first mile Incubator of AREA Science Park
- H-FARM, the venture incubator

Boht incubators depict the potentilaities of a innovative model of Incubator.

5. The evolution of business ideas

5.1 Innovation Factory. The first mile incubator

Innovation Factory is the "first mile incubator" of AREA Science Park, located in Friuli Region. The Incubator supports firms interested in creating their own business plan, and cooperates with them to transform an innovative idea into a competitive business.
Following a selection process, Innovation Factory provides space and services to support the business idea.
The collaboration between potential star ups and Innovation Factory is founded on 3 phases:
- Evaluation of the business idea. The proposer submits to the Innovation Factory a business plan
- Pre-incubation. Once the proposal is accepted, Innovation Factory helps future entrepreneurs by providing the services and resources needed for the creation of a new business.
- Firm setup. The conditions for economic sustainability allow the creation of the new firm.

Innovation Factory started in 2007 with 208 business ideas; nowdays 5 have already become businesses.
In order to go more in depth in the innovation process supported by Innovation Factory, we can consider its main emblematic start ups.
AMPED defined an algorithm in order to improve the quality of images related to the forum area. This solution has been adopted by the Italian Scientific Investigation Department and by the Swedish Police.
G&LIFE operates in the nutrigenetics. Founded in 2009, G&LIFE is a joint-stock company that develops and promotes products and services tailored to the analysis of DNA. It realized genetic mapping to which is added the flavor and analysis of intolerance.
SBS was founded in 2011 from the Development Group FR&EDiet. The mission is summed up in applying scientific knowledge, recognized on the world stage, to develop products and services for professionals and the general public. The main aim is the maintaining of a high state of wellness.
AMFED- MODEFINANCE works in the rating of SMEs. It has already entered into an agreement with the Bureau Van Dyck. ModeFinance provides transparent, accurate and coherent reports including financial analyses, ratings and probability of default evaluations all together.

BILIMETRIX, with its Bilistick project, aims to develop a new rapid diagnostic system of I level - to be used outside the Point of Care - to measure levels of total bilirubin in the blood of newborn babies.
Innovation Factory provides the opportunity to develop an innovative idea in the fertile environment of AREA Science Park. The relationships with international research groups, the long experience in technology transfer, the patenting and documentation information services, make Innovation Factory an interesting environment for transforming the business idea into real business.
A business coach accompanies future entrepreneurs along their personal development paths, sharing their challenges and helping them to reach the creation of a company.

5.1.1 AREA Science Park

AREA is the first multi-sectoral Science Park in Italy and one of the largest in Europe. Based on two campuses in Padriciano and Basovizza (Trieste), AREA manages the activity of starting up and developing centres, companies, and institutes engaged in research, technology transfer, training, and professional service.
AREA was founded in Trieste at the end of the 1970s with a primary aim to create a structure to support joint development between science and firms. The main strength of the Park is the shift from science to technology: In the past 30 years, the Park has shifted from producing science to producing technological knowledge aimed at enhancing the quality of life.
The management company the Consortium plays a key role in the Park's development process. The Consortium was founded to support the growth of techno-industrial partnerships. The Park's main areas are related to energy and environment, life sciences, IT and ICT, physics and materials, nanotechnology, and innovative services.
AREA supports the development of collaboration among tenants. To date, 88 tenants (67 firms and 21 research centres) have operated in the two AREA campuses. The personnel is over 2500 units. Laboratories, research centres, and spinoffs cooperate with firms involved in biotechnological, telecommunications, innovative materials, and nanotechnologies.
To foster the development of the territory, especially at the regional level, AREA firms, research centres, and universities work closely together to define the ideal conditions under which to increase the level of technical and scientific knowledge, developing basic and applied research as well as honing new technologies, products, and processes. Moreover in response to the increasing demand for innovation in a region hosting specialised production companies and industrial districts, AREA has created Innovation Network®, a network divided into Competence Centres for technology transfer that operate in areas of transversal interest (energy, production efficiency, new materials) as well as are specialized in individual production sectors (wood and furnishings, agro-industrial, shipbuilding and boating). This network for innovation, which has a very close relationship with the territory, was created in collaboration with the business community, and it is geographically dispersed throughout the Friuli Venezia Giulia region.
AREA further supports collaboration to increase local competitiveness, as evident in the Domotics FVG. The Domotics project aims to create a cooperative network for research and development in the field of prototyping and automation solutions for the home in order to meet practicality, effectiveness, and efficiency goals. The main partners involved in the Domotics FVG project are Friuli Innovazione Science Park, Agemont (Agency for Mountain Economic Development), and Pordenone Technology Centre as well as collaboration with the Rino Snaidero Scientific Foundation and the firm Rino Snaidero. Each actor provides specific competences, such as coordination (AREA), technology transfer (Friuli Innovation), and the promotion of economic initiatives and the valorisation of human resources and

mountain materials (Agemont). AREA operates in order to promote collaboration between enterprises and scientific and technological research networks at the local level.
Meanwhile, AREA networking involves firms and centres that operate in an international context, including cooperation with the Massachusetts Institute of Technology (MIT) of Boston and the SRIC-BI in the European region. AREA has also partnered with IRENE (the European Innovation Relay Centre) and cooperates in the Enterprise Europe Network as well as with the Friend Europe Consortium.

5.2 H-FARM. The venture incubator

The main aim of H-FARM is to assist and accelerate the development of entrepreneurial initiatives in the Internet area, either through mentorship activities and with financial support.
H-FARM Ventures is a holding company with four local companies (epicenter) through which the investors develop internationalization. H-FARM born in Ca' Tron, in a historic farm of 1,200 acres closed to Venice (Veneto Region), and expands into the USA, India and the United Kingdom, while maintaining a strong link with the territory of origin.
Beside an accelerator in charge of direct mentoring startups, H-FARM provides the real estate services, administration general services and Sales & Marketing services to accelerate the development of new initiatives. H-FARM developed an innovative business model within Digital context, while adapting to the peculiarities of the home market.
The objective of H-FARM is to create a district of digital, such as a small Silicon Valley exploring the frontiers of the Internet looking for dynamic business models and new forms of communication.
H-FARM accesses a continuous and high-quality deal flow: more than 400 proposals each year are evaluated and selected by a dedicated team. The initiatives identified in this way begin a path of incubation ranging from an average of 36 to 48 months.
In order to go more in depth in the innovation process supported by H-FARM, we can consider the main emblematic start ups belonging to its portfolio.
H-art works on brands marketing and communication strategies and builds digital brand experiences. H-art goal is to find how brands can leverage ONline channels such as web, mobile devices, in-store technologies, and other emerging media to engage people. H-art portfolio involves brands such as Alessi, Barilla, Diesel, Heineken, Illy, Ikea, Nike, Nivea, Pirelli, Sony Ericsson, Telecom Italia, Versace, Toyota, and many others.
H-umus is an innovative software company and leading provider of iPad sales tools. The firm's solutions are designed for customers in the fashion industry. As a scalable platform, H-umus is extending its area to include personal care, jewelry, watches, furniture and other luxury goods markets.
H-care is a leading developer of user-friendly platforms for multimodal, multi-channel, self-service and customer care. Through the announcement of the end of the incubation cycle for H-care, after 3 year of its foundation, H-FARM demonstrated that it can accelerate the transformation process from idea to new business.
H-FARM offers to its start ups the opportunity to focus on their business and relationships with external partners without managing the administrative, financial and marketing activities.
H-FARM initially controls a large part of the shares but favors the spread of the remaining capital to investors and employees of the company. Since the beginning the key people are shareholders with the motivation and stimulation that can result from sharing the property.
The name "Farm" is related to the seat that is surrounded by greenery in a renovated farmhouse and the environment is more and more perceived value by businesses. "Farm" is a

factory for ideas and innovation and Innovation Factory, as business incubator, provides innovative entrepreneurial formula to its start up. The Farm also connects the idea of the tradition with the most advanced web technologies and new media, projecting the local context in the world of technology and knowledge. Moreover H stands for "Human" instead: as well as the agricultural world was human as much attention to the man should be the main focus in the development of a new technology.

6. Discussion

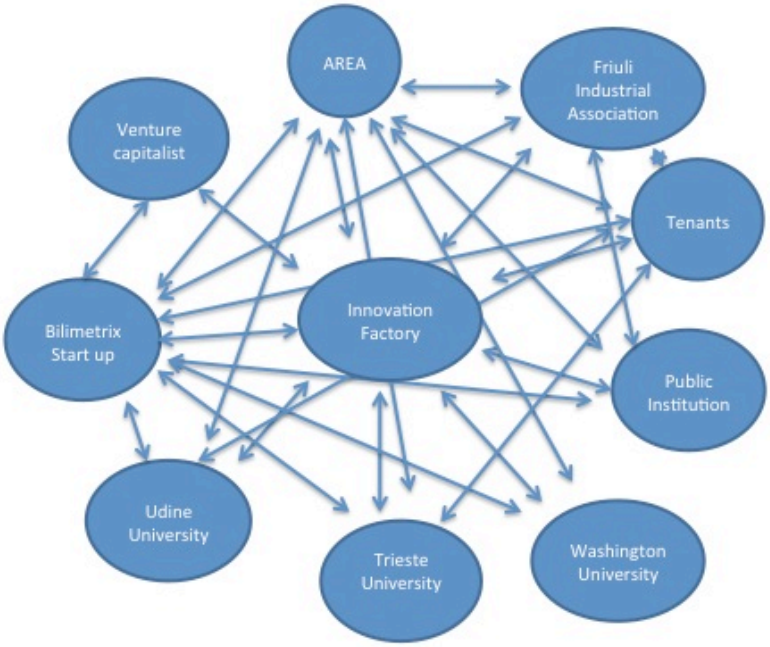
The research results are mainly ascribable to the ability of Incubators, and Science Parks where they are located, to facilitate the sharing and combining of heterogeneous knowledge among different organizations such as firms, universities and governments. As depicted by the case studies, the innovation is generated by the interaction among the actors that are characterized by different knowledge.
We can thus consider the first proposition:
P1. Incubators, and their Science Parks, as knowledge's intermediaries, allow the development of inter-organizational relationships among several organizations characterized by different knowledge that outline the Epistemic Networks.

The case analysed outlines how the Incubators and Science Parks can support the key relationships between firms and university in technology transfer.
To deepen the relationships between Innovation Factory and universities, we should consider the relationship between its Science Parks and universities. AREA is responsible for the coordination of research institutions, national and international research centers, universities and scientific and technological parks in the Friuli Region. From this perspective, the startup supported by Innovation Factory can develop relationships with these universities (Trieste University, Udine University, …) and can participate to the process of knowledge transfer.
Taking a similar perspective, H-FARM developed a project with Ca' Foscari University and with Brera Academy in order to launch the Contamination Lab. The Incubator and the universities cooperate to promote both entrepreneurship and training for new digital professions. The start-ups supported by the Incubator can develop relationships with these universities and research centres, and better develop their activities.
The research also emphasizes how high performances are generated by the innovative business model that characterizes Incubators and Science Parks.
The attention of Incubators and Science Parks stresses not only traditional services, such as tangible assets and real estate operations, but more and more innovative services that support networking.
Innovation Factory works to validate the idea of a business Incubator from the perspective of first mile. It assesses whether ideas can be turned into competitive businesses, and recently a business accelerator was introduced. Innovation Factory activitites are founded on competences of its Science Park: AREA is considered a place where research and enterprise can share resources and a national benchmark for knowledge transfer supporting the growth of the local economy.
Differently, H-FARM is a Venture Incubator. The mission of H-FARM is to accelerate the development of Internet start-ups via a combination of seed investment and incubation services. The Venture Incubator offers a hybrid model that reflects the dual souls of H-FARM: Venture Capitalist and Incubator. As a Venture Capitalist, H-FARM invests seed capital, granting finances for early stage activities; as an incubator H-FARM provides services to speed up actual business development.
The second proposition is:

P2. More and more the competitiveness of the Incubator, and its Science Park, is founded on intangible assets and on innovative business models that emphasize the networking.

Further still, the start-ups related to Incubators are characterized by a convergence of visions. The emblematic start-ups of Innovation Factory and H-FARM pay major attention to health care and human aspects, both related to the main values of Incubators, as well as the tenants of AREA. Taking into consideration the start-ups related to Innovation Factory, G&LIFE operates in nutrigenetics, SBS focuses on wellness, while BILIMETRIX addresses health areas. This area is relevant for the Incubator and for its start-ups as well as for the AREA Science Park.
From a similar perspective, the Human in the H-FARM project name underlines the general objective which aims at developing initiatives that have in common the simplification of the interface from a graphics point of view and hence experience in use.
The cases analysed also show how the projects and services provided by Incubators and Science Parks involve several organizations in different places and are characterized by different resources. The innovation is generated by the interconnected relationships between actors that belong to different network position. These organizations are characterized by convergence in terms of those objectives that focus on innovation.
Taking into consideration the spatial area, H-FARM operates in an international context with offices in Ca' Tron (Italy), Seattle (USA), London (UK) and Mumbai (India).
Incubators support the development of the local area through starting international relationships.
From a similar perspective, AREA provides a network of knowledge and skills through its extensive experience in transferring knowledge and technology to companies and organizations. Innovation Factory networking involves universities, enterprises, public institutions, venture capitalists, and business angels. Particular attention is also paid to cooperation with associations and international organizations (MIT, Stanford, and the International Association of Science Parks).
Thanks to the agreement between AREA and the MIT, a strong relationship connects start - ups with MIT. Through this agreement, AREA aims at providing to start-ups with a range of skills and excellence to foster a competitive jumpstart and allow them to have privileged access to MIT knowledge. The objectives are to promote the creation of research spin-off more effectively and facilitate the development of innovative products, processes, and the management of regional firms. There is a specific interest in the Region to identify leading-edge technologies and expertise available within MIT through the experts at the Industrial Liaison Program. The Innovation Factory has followed the MIT model based on the mentorship role. This mentor maintains a direct relationship with the entrepreneur to stimulate growth and development through advice and solutions to those problems that may occur in the early stages of a company. In addition, Stanford is considered a reference for specific methods of research used to support the activities of start- ups.
The collaboration with MIT and Stanford allows Innovation Factory to support the development of start ups. In particular BILIMETRIX, in cooperation with the Innovation Factory, also involved in the innovative project the University of Washington. The resource sharing involves knowledge, skills, space and laboratories.
As shown in the figure (figure 2) the development of relationship with the Innovation Factory allows BILIMETRIX to activate relationships with AREA and its tenants. Moreover this relationship generates new interconnections between the start up and the Business Partners of Innovation Factory and AREA, such as public institutions, SMEs, and venture capitalist.

Figure 2- Interconnected relationships supported by Incubator



In this local context high performances have been reached by AMPED that gave rise to the development of a innovative software for image management, and G-Life that develops its activity through a multidisciplinary team of professionals (doctors, geneticists, biologists, nutritionists).

In a similar way, H-FARM supports portfolio start-ups, assisting them in defining their commercial strategies, business plans, partnerships, and exit strategies. In particular the development of start ups is founded on the key relationships that H-FARM has developed with other organizations.
Taking into consideration H-FARM partners support the portfolio startups throughout their incubation assisting them in defining commercial strategies, business plans, partnerships and exit strategies. In particular the development of start ups is founded on key relatioships that H-FARM developed with other organizations.
In February 2009 H-FARM announced the end of the incubation cycle for H-art and the GroupM (WPP Group, communications and marketing) acquired 90% of the company.
Moreover H-umus allows customers to reduce their sales costs and increase overall revenue. On the basis of H-umus there is Nuxie, a scalable merchandising platform for showrooms, sales reps and retail stores. Nuxie provides the simplest way for customers to present and sell a fashion collection, showcase and sell products. The H-umus customer base includes Armani, Diesel, Benetton, Safilo, Nike, Pomellato, Piquadro, Bally, Citizen and others.
In addition to this, H-care's Human Digital AssistantTM platform solves the challenge of making online customer interaction. It combines high quality real-time animation, 3D rendering, state-of-the-art voice synthesis, and integrates these seamlessly with existing

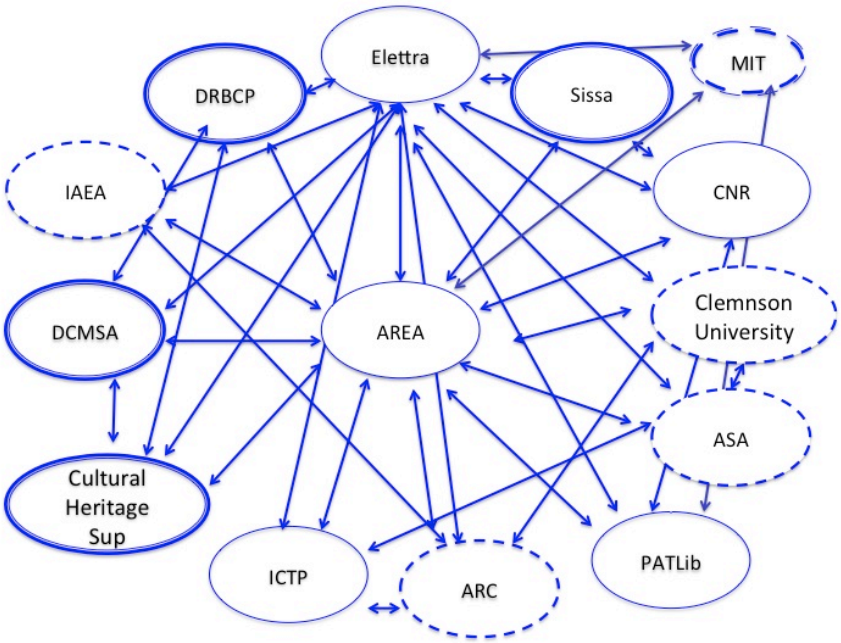
corporate information sources, to deploy human-like assistance on web portals, mobile phones, ip-set top boxes, and kiosks.
Knowledge and capital can be considered as two resources that do not automatically attract each other, and the value is generated by the combining of two resources in a network perspective (Powell, 1990). Network connects elements that belonging to places widely separated and to places located very close together.
Going more in depth in the analysis of relationships supported by the incubators and Science Parks we can consider how the value generated in each relationship can influence other relationships. The IMP network approach underlines how a company's technological, social and economic features are the result of its interaction with other companies (Håkansson, Waluszewski, 2002).
The third proposition is:
P3 The role of Incubators and Science Parks is to support the development of relationships between actors that are located in different place/position but that are characterized by a relational proximity.

Both incubators are characterized by a specific role in the process of knowledge transfer.
In Innovation Factory the pre incubation zone provides validation supporting the businesses. The Incubator evaluates if the value proposition could be competitive for the market. A business coach supports entrepreneurs in training and helps them to reach the main goal: the creation of a competitive firm.
In a similar perspective H-FARM adoptes an approach devoted to speed go-to-market until the full financial self-sustainability. The incubation process culminates with the sale of the firm to a third party by agreeing stay within the incubation structure, for a period of at least 5 years.
Finally H-FARM operates as advisory consultant (Italy) for Funds or venture capital to support the analysis of business models and related Internet Media providing mentoring and tutoring services to startup.
Taking into consideration H-FARM, the Storming Pizza Event began an opportunity to propose some interesting business ideas. H-Farm receives more than 1000 projects a year and invests in the top 10: the most interesting in H-FARM are invited to present their idea. The target of the event is made up of the partners of H-FARM, members of the Investment Committee. The tone is informal while the event is professional. The Storming Pizza has been held in Florence, Lecce, Trento, Pisa, Turin, Udine, Milan. In this case the place becomes important in order to share information and knowledge but the spread of innovation is also linked to heterogeneous contexts.
Both Incubators outline the dynamics of knowledge transfer context and the evolution of Incubators profile.
Business Incubators are important instrument for developing an economy through the support of entrepreneurship and innovation (Tsai et al. 2009). The Incubators on the basis of intellectual and technological resources interact with potential entrepreneurs by arranging a series of services, supporting the development of business ideas. The purpose of an Incubator is not to make a scientific discovery but found on develop new businesses with high potential for development and this latest is founded on networking.
Nowdays the networked incubator offers a set of relationships in creating value. Moreover the Incubator is established as an actor of industrial policy to support the development of the territory.
The identification of Incubators, as characterized by high performance, allows them to be considered as benchmarks. This analysis leads to the definition of virtuous business models

that can be replicated to create a competitive advantage for the firm and for the system-network as a whole.

Moreover the Incubator located, as tenant, at the Science Park can provide a wider network of knowledge to its start ups. We can consider how start up of Innovation Factory can be potentially involved in the knowledge relationships of AREA taking into consideration also the evolution of business model of Science Park. In fact the attention of Science Park stresses not only traditional services, such as tangible assets and real estate operations, but also innovative services founded on networking.
Going more in depth in the process of resource sharing, we can consider how AREA works focusing on the Microscopy Line Project generated by Elettra, one of its tenants, that develops projects and services founded on its Synchrotron. AREA supports the project in testing a specific technique dedicated to anti-falsification system for cultural heritage management (figure 3). The light of Synchroton is currently produced by a third generation accumulation ring and in the near future will be produced by the cutting edge FEL (Free Electron Laser). ESCA Microscopy line researchers developed a technique to deposit special materials capable of creating inscriptions at the micrometric level. These materials are transparent and are deposited in the form of a very thin film that does not alter the visible characteristics of the object to which they are applied – the technique is therefore suitable for use in authentication and anti-counterfeiting. AREA, in agreement with the Industrial Liaison Office of Synchrotron, identified the possibility of validating the use of the technique for the protection of historic and artistic heritage.

Figure 3 – The Project Network

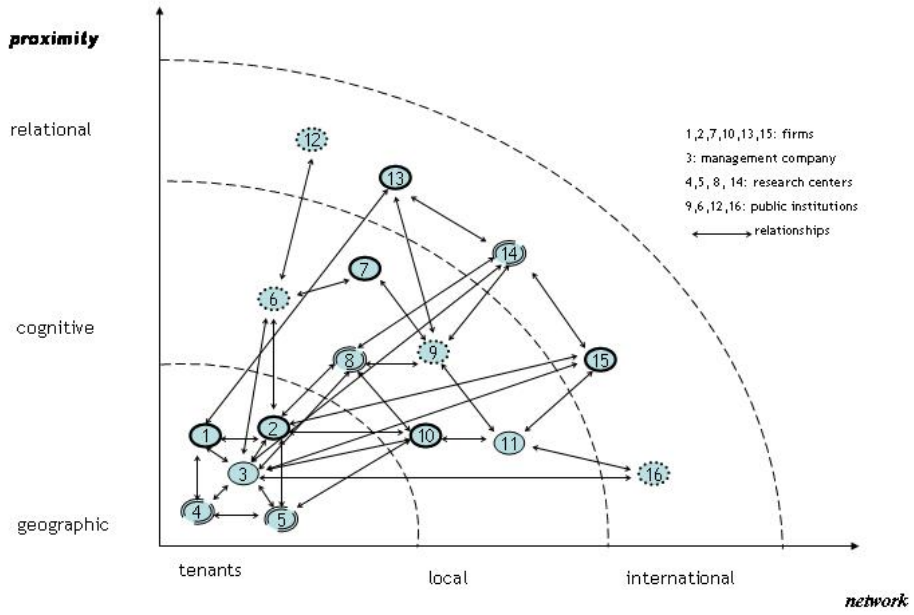


AREA decided to involve in the project national and international organizations that provide specific resources.
The main actors involved concern organizations related to cultural heritage asset management (DRCP, DCMSA), higher education (Sissa), organization for innovation (ICTP), internal office specialized in patenting (PATlib). In addition to this we can find interorganizational organizations such as South Dakota University. Each actor provides specific resources in order to develop the project. AREA provides laboratories (product), the system of analysis

(production facilities), the coordination competences (organizational resources) and develops relationships with each actor. Elettra provides the Synchotron (product), the applied research (organizational resources) while SISSA operates through report (product), the teaching system (production facilities) and the training competences (organizational resources). The cultural heritage superintendent provides documents (product), routines (production facilities) and applied research competences (organizational resources).
Taking into consideration the advantages we can find further development of the method for application in various types of objects (books, paintings, etc.). In addition to this, there has been the request by the Regional Directorate for the Cultural and Landscape Heritage of Friuli Venezia Giulia for continued collaboration, proposing presentation of the technique developed to insurance companies, auction houses and security forces.
In a similar perspective H-FARM is also a synthesis of localism and globality. "Zooppa" has been promoted as the Italian-American initiative. Zooppa is a platform for user-generated advertising, inspired by the principles of crowdsourcing and the dynamics of social networks, that changes the way in which brands engage consumers. The brands launched on Zooppa, their creative contests, and the community members, create their proposals based on the brief published online. By today Zooppa hosts more than 150 creative contests in three countries: USA, Italy and Brazil. The community is over 100.000 users growing day by day and increasing the quality of the contents produced. The Ca' Tron Valley, where H-FARM is located, is characterized by synergies that depict the interconnections of aggregation and technological district.
The cases analysed also show how the projects and services provided by Science Parks involve several organizations in different places and are characterized by different resources. In this context, Science Parks and Incubators support policy makers in order to provide financial resources together with political and economic guidelines to support the overcoming of crisis and the development of local area. These financial and political resources are combined with the resources of microlocal firms (production competences).
Moreover taking into consideration the internationalization process new opportunities and challenges have emerged from the global scenario and especially the need for a new approach to markets, no longer based on the traditional competition logic (Harold et al., 2000).
P4. The innovation is generated by the interconnected relationships between actors that belong to different network position. These organizations are characterized by shared vision

The cooperation between the actors becomes stronger through the increasing of relational proximity.
As depicted in the figure 1 we can see the relationships between firms (knots 1,2,7,10,15), research centres (knots 4,5,8,14), institutions (knots 9,6,12,16). The management company (knot 3) can so develops relationships with firms (1, 2), research centres (8), institution (6) belonging to local area; as well as firms (15), research centres (14), institutions (16) belonging to international area.
Thanks to these relationships, the tenant (2) can develop relationships mediated by the management company also with local institutions (6), local centre (8), local firms (10) and international one (15).
Geographic concentration can influence the network horizon, but it is not sufficient to create the network context made up by the more important relationships. The attention is so focused on cognitive proximity and relational proximity (Figure 4).
Science Parks support the development of relationships at different levels of space in a geographic perspective, including the area of tenants, the local area, and the international area. In addition, Science Parks support the development of relationships at different levels of proximity.

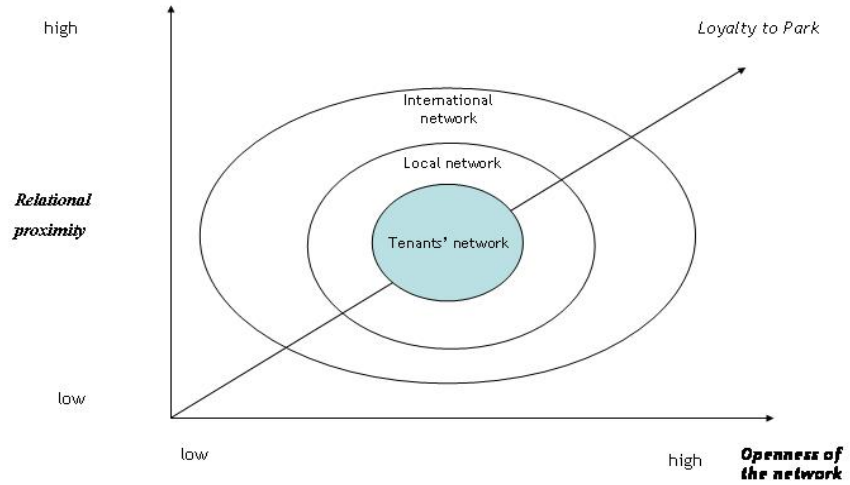
Figure 4 – Network and proximity



The fifth proposition is thus related to:
*P5 The Incubators and Science Park supports the shifting from geographic proximity to relational proximity***.**

As emphasized in the following figure (figure 5), increased relational proximity and the openness of STP networks support the outlining of a loyalty of firms and organisations to STP.

Figure 5 – Relational proximity and network openness



This consideration is related to the tenants' area, local area, and international area. Relational proximity is influenced by commitments. Lenney and Easton (2009) consider commitment concept as agreement made between actors. Fulfilling commitments involves the use of resources that are many and varied.

In addition, the development of interconnected relationships refers to collective learning versus collaborative learning. Collective learning is a way for an independent firm to gain access to the sticky as well as to the tacit knowledge of another firm. From a broad perspective, collaborative learning is related to collaborative entrepreneurship. As such, innovation is generated by the ability of the firm to co-operate in an internal (collective entrepreneurship) and external (collaborative entrepreneurship) perspective (Miles et al., 2006). Collaborative entrepreneurship is more focused on value generated by external knowledge. Thus, the interconnected relationships outline a relational embeddedness and a network embeddedness: the development of a firm depends on the development of its network (Echols and Tsai, 2005).

From this perspective, the management company supports the relational proximity based on a shared vision and long-term relationships. Start ups choose Incubators, and tenants choose the Science Parks, in order to benefit from synergies related to the use of the same structure, but they also are interested in different geo-spatiality within the same space-relationship. Science Parks and Incubators allow tenants to benefit from the shift from geo-spatiality to relational spatiality.

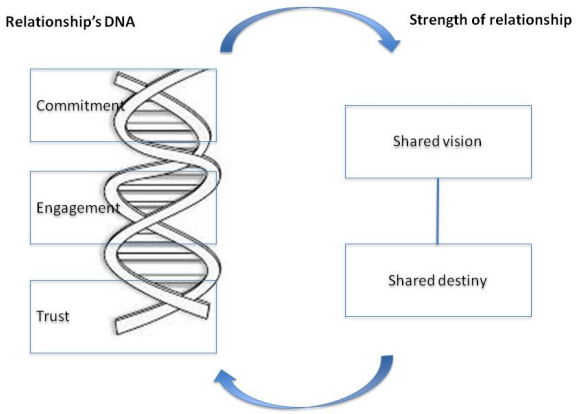
The interconnected relationships are supported by "a linguistics and semantics architecture of non-deterministic rules and procedure" (Pilotti, 1990: 123). The shared specific language that characterizes the community of actors supported by Incubators and Science Parks enables firms to develop the enhancement of complementarity.

The communities do not require physical proximity of their members as they are considered as open social systems whose boundaries are continually redefined with the entry and exit of new members. The community has the advantage of achieving a unified view of working, learning and innovation (Brown and Duguid, 2001).

Relationships are focused on specific issues to emerge in the epistemic communities that carry out their activities on the basis of a mutually recognized subset of knowledge, considered essential to the success of the collective activities of knowledge production (Cowen et al., 2000).

Epistemic communities can be considered as groups with common goals and practices, interested in relationships of knowledge exchange. The informal cooperation, based on trust and reciprocity, therefore, assess the potential relationship of the firm. Epistemic communities are linked in particular to the scientific knowledge that is characterized by three basic qualities: spreads easily, going beyond the concept of ownership; loses value over time, especially because of the imitative processes; has a "not-rival " use and so can be shared (Rullani, 2006).
By its nature, a territory is not an epistemic community. In this context, a local system has great potential if it belongs to the circuits of many epistemic communities. Territorial actors (institutions, private and civil society) are asked to share the same vision of priorities and the knowledge on which to develop identity. The spread of knowledge is therefore through a community that shares the same epistemological basis and access to the specific field of knowledge. Epistemic communities are then extended communities that are not defined by membership in the same territory, the same company or the same profession, but by the same vision of the world and by the same cognitive approach (Rullani, 2006).
The concept of shared vision, combined with convergent objectives and shared values, allows the understanding of collaborative relationships (Morgan & Hunt, 1994; Parsons, 2002). In this perspective, the shared vision includes collective goals (Tsai and Ghoshal, 1998; Nahapiet and Ghoshal 1998).
The shared values and mutual understanding between the parties, facilitate communication of meaning that is essential in the combination of resources for the knowledge creation. The transfer of knowledge is therefore not out of pure " epidemiological contact." The knowledge sharing is founded on stakeholder's commitment, engagement and trust (figure 6)

Figure 6 - Relationship's DNA and strength of relationship



Cantù, 2013

These dimensions influence the strength of relationship founded on shared vision and shared destiny (Cantù, 2013). In addition to this the stronger relationships generate the improvement of relationship's DNA and the development of relationships characterized by high relational proximity that is the basis for trust and competitive advantage.
The firm invests in the development of external relationships to share resources and generate value, in order to develop strategic innovation. This latest, related to market and internationalization, involve actors characterized by different core activities.

7. Conclusions

More and more, the innovative Incubators, also through their Science Park, support the development of relationships between start-ups and actors located in different places, but characterized by relational proximity. The place becomes a relevant point as a resource that provides opportunities for firms but the development of these firms is in a wider network context. The place becomes a facilitator of relationships focusing on local relationships but more and more the competitiveness of relationships is founded on the combining of local and extralocal relationships improving the wide horizon and the wide network context.
Incubators and Science Parks, as intermediaries of knowledge, enhance the commitment, engagement and trust of several actors that made up their communities and are involved in the process knowledge transfer, thus increasing the shared vision and shared destiny.
The competitiveness of the Incubators and Science Parks is based on innovative business models that are founded on providing learning services that overcome traditional real estate service. In particular the Innovative business model of Incubators is founded on networking. This one can be improved through the Science Park where Incubator could be located as tenant. The Incubator can access to Science Park's relationships and increase the value of relationships that outline the Epistemic Network.
The replication of virtuous business models, founded on high-value services offered by the Incubators and their Science Parks, will help firms stay focused on their core competences and access external resources, thus improving productivity. From a social point of view, the new business opportunities that arise from networking will also lead to employment growth. The replication of strategic choices will promote entrepreneurs and relevant issues for society.

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