Service innovation in the firms. The case PA.L.MER.

V. FORMISANO[1] – G. RUSSO[2] – M. FEDELE[3]

ABSTRACT

Purpose - In a context of emerging systemic complexity, innovation allows to increase the competitiveness of companies in the markets, also through the continuous interaction between a number of subjects that integrate their resources to create shared value. The work aims to analyze the role played by the service innovation in the process of creating and disseminating value of enterprises, with particular attention to the local context of the Southern Lazio through the examination of the Pa.L.Mer. case. This Science and Technology Park, constituted as a limited liability consortium brings together and capitalizes on the wealth of knowledge, experience and expertise of important organizations in order to promote the raising of the technological level of enterprises, orienting them to the radical innovation and experimentation.

Methodology - The methodology used focuses on the theoretical contributions of Viable System Approach (VSA), the Service-Dominant (S-D) Logic, the Service Science (SS) and Network Theory, to which is added the analysis of the PA.L.MER. case.

Results - Innovation, through a combination of creative ideas, resources and expertise, can generate greater prosperity for the market through the development of new products and services, a higher quality output, lower procurement costs and more and complete information on the products and services available. So it is essential to involve in this process various stakeholders such as universities, laboratories and public research institutions, private foundations and research centers, producers of complementary goods, the competitors, and in particular both the customers, in order to effectively respond to their expectations in terms of priority needs, and suppliers, through forms of collaboration that help to reduce the cost of planning new products, a high level of quality and adequate development time.

Research limitations - The paper is limited to the analysis of a single case on the local level which should be further investigated.

Practical implications - A case of success offers the opportunity to raise the question of how service innovation can become a driver for the development of enterprises and the reference context and the importance of developing the most of the synergies, the collaborations and functional relationships of their own activities, taking advantage of a wide range of common services that represent a high added value. The model, therefore, lends itself to be usefully extended to other business realities.

Originality - Following the growing interest in service innovation, this study aims to investigate how this factor could be decisive for the creation of value, presenting a successful case.

[1] Associate Professor of Business Management - University of Cassino and Southern Lazio - v.formisano@tin.it.
[2] Researcher in Business Management - University of Cassino and Southern Lazio - giuseppe.russo@unicas.it.
[3] PhD in Business Management – University of Cassino and Southern Lazio – mariafedelecam@libero.it.

Key words - Service Innovation, Viable System Approach (VSA), Network Theory, Service-Dominant (S-D) Logic, Service Science (SS), science and technology park, the creation of shared value.

Paper type - Research paper.

Theoretical contributions of the Viable System Approach, Network Theory, Service-Dominant Logic and Service Science

The concept of service is related to the ability to incorporate tangible and intangible elements and is representative of the most sophisticated models of value creation. The success of the service in many contexts, from social to economic and industrial, has led to an evolution of the traditional theoretical paradigms, which overcoming the classical dichotomy between goods and services (Kotler, 1977) recognized strategic importance of the latter, because everything that is produced and exchanged, regardless of its tangibility, it's service (Gummesson, 2006). The Service-Dominant Logic today has become the founding philosophy of services science, causing considerable interest in the academic community worldwide. Overcoming the deep-rooted traditional views and re-imagines the concept of service and its value, coming to think to dominate the logic of production and market exclusively through the service-centered paradigm (Vargo, Lusch, 2004b; Lusch, Vargo, O'Brien, 2007). S-D logic holds that service is the fundamental basis of exchange in the interactions among economic, social, and system entities (Barile, Polese, 2010). In this logic, the "services", from complementary and supportive goods must therefore be considered in terms of use of the expertise of a subject for the benefit of another in order to create shared value. According to this approach to be successful in the long term, a company must create value both for themselves and consumers without whose essential contribution not only it is difficult to determine precisely the value produced by a given service, but also you get to talk about product "worthless" (Polese, Carrubbo, 2008). In this sense, the service is considered an inclusive term, in which the asset is seen as the vehicle for the delivery of services to customers (Gummesson, Lusch, Vargo, 2010). It is relational processes that tend to be synergistic between different actors (Vargo, Lusch, 2011), which in a specific context, being consonant, converge towards common goals (Maglio, Spohrer, 2008) of co-creation of value. The value is not simply traded within a transaction, but rather created by all those who participate, with an interactive view involving all subjects (Calabrese et al., 2012). This is done because the customer is considered as a usable and competitive resource, to be exploited in order to achieve a sustainable and lasting advantage (Vargo, Lusch, 2004a). Sustainability can be achieved effectively only when the entrepreneur can establish a perfect harmony between all the resources of the different actors involved in the co-creation of value (Calabrese et al, 2012). According to the theory of Vargo and Lusch, pioneers of this logic, which was formulated in ten key points, in 2004, the service must be considered as the set of skills, knowledge and abilities of an systemic entity that the customer is purchasing meet for their own needs.

Table 1 - Foundational premises of S-D logic

	Foundational Premise	Explanation & Comment
FP1	Service is the fundamental basis of exchange.	The application of operant resources (knowledge and skills), "service," as defined in S-D logic, is the basis for all exchange. Service is exchanged for service.
FP2	Indirect exchange masks the fundamental basis of exchange.	Because service is provided through complex combinations of goods, money, and institutions, the service basis of exchange is not always apparent.
FP3	Goods are a distribution mechanism for service provision.	Goods (both durable and non-durable) derive their value through use – the service they provide.
FP4	Operant resources are the fundamental source of competitive advantage.	The comparative ability to cause desired change drives competition.
FP5	All economies are service economies.	Service (singular) is only now becoming more apparent with increased specialization and outsourcing.
FP6	The customer is always a cocreator of value.	Implies value creation is interactional.
FP7	The enterprise cannot deliver value, but only offer value propositions.	Enterprises can offer their applied resources for value creation and collaboratively (interactively) create value following acceptance of value propositions, but can not create and/or deliver value independently.
FP8	A service-centered view is inherently customer oriented and relational	Because service is defined in terms of customer-determined benefit and co-created it is inherently customer oriented and relational.
FP9	All social and economic actors are resource integrators.	Implies the context of value creation is networks of networks (resource integrators).
FP10	Value is always uniquely and phenomenologically determined by the beneficiary	Value is idiosyncratic, experiential, contextual, and meaning laden.

Source: Vargo, Lusch, 2004a, 2008a

This approach, implemented by the Service Science, Management and Engineering (SSME) (Vargo, Maglio, Akaka, 2008), considers the entrepreneur as a person 'enlightened', that, by adopting a systemic perspective, includes in its extended structure all entities that participating, in various ways, to co-creation of value. Service Science "combines organization and human understanding with business and technological understanding to categorize and explain the many types of service systems that exist as well as how service systems interact and evolve to co-create value" (Maglio, Spohrer, 2008). It is based on ten principles (Spohrer et al., 2008; Spohrer, Kwan, 2009): resources; entities; access rights; value co-creation interactions; governance interactions; outcomes; stakeholders; measures; networks; ecology.

SSMED Foundations	Main Focus
Resources: Everything that has a name and is useful can be viewed as a resource	*Useful* instruments for activities
Entities: Some complex resource configurations can initiate actions, and these are called service system entities (or just entities, or sometimes just service systems)	Openness of evolving systems
Access rights: dealing with the social norms and legal regulations associated with resource access and usage.	Supra-Systems relevance
Value Co-creation Interactions: Also known as value-proposition-based interaction mechanisms	Joint process within Service Systems
Governance Interactions: Intuitively, governance mechanisms are a type of value-proposition between an authority service system entity and a population of governed service system entities	Common finality, internal and external equilibrium
Outcomes: When service system entities interact, value-co-creation is only one of the possible outcomes.	Value intended in an extended way
Stakeholders: The four primary types of stakeholders are customer, provider, authority, and competitor	Contextual influences and self-regulation
Measures: The four primary types of measures are quality, productivity, compliance, and sustainable innovation	Up to now only qualitative
Networks: Also known as service system networks, service systems entities interact with other service system entities (normatively) via value-propositions	Networked *embeddedness*
Ecology: Also known as service system ecology, the macro-scale interactions of the populations of different types of service system entities	Service Ecosystems

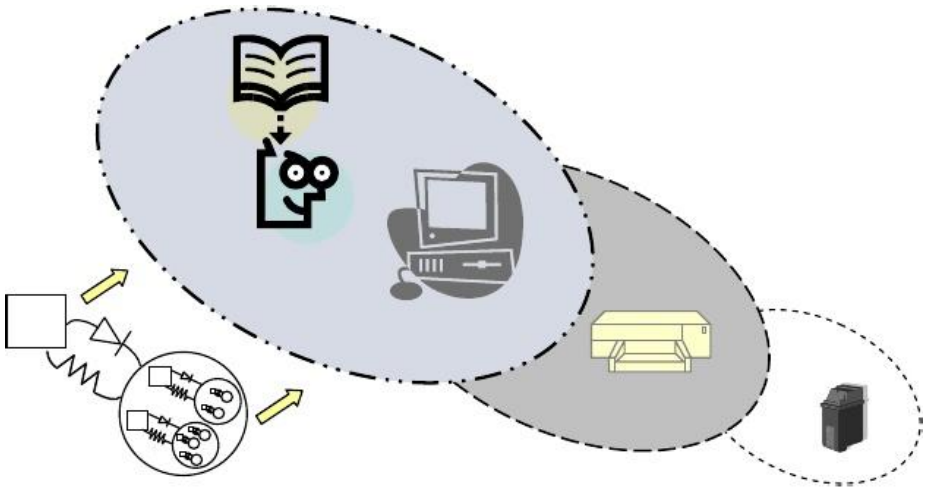
Source: Barile, Polese, 2010

This paradigm, introduced by IBM (IfM, IBM, 2008) to describe the service science, harmonizes, then, different disciplinary perspectives to drive, among other things, innovation and competitiveness through the services (Spohrer, Maglio, Bailey, Gruhl, 2007, Spohrer, 2010).
This highlights the importance of a systematic innovation in the service sector, which is considered the largest economic sector in most industrialized countries, and is rapidly becoming the largest sector even in developing countries. The SSME considers serving as a system of interacting and interrelated parts, can involve individuals, technologies, business activities, constantly correlated with the outside world in order to implement its own distinctive features and to obtain and maintain a sustainable competitive advantage (Maglio, Srinivasan, Kreulen, Spohrer, 2006; Maglio, Spohrer, 2008a). It investigates how to improve efficiency evaluation, sustainability in systemic relationships and interaction within a service system (Carrubbo, 2010). Service systems may be intended as networks, in which functional interdependencies adopted by every participating entity in order to face environmental complexity (Richardson, 1972; Hakansson, Ostberg, 1975), to stimulate interactions at various levels of a context (Samarra, Biggiero, 2001).
This encourages the growth of relations between entities as well as the interactivity of social variables, political and economic of the same, and identifies the opportunity to focus on your core

competence, to bridge the gap of knowledge, to combine the advantages of small organization with those of large structured organization (Barabási, 2002).
Therefore, the service systems are able to foster relationships and interactions between the various actors involved in an exchange process following different channels of communication between businesses, consumers and various stakeholders (Gummesson, Polese, 2009). Being related to interactions supplier / customer are attributable to open systems (Beer, 1975), in which multiple actors are involved in the exchange of value. Are able to strengthen its state of equilibrium through the acquisition, sharing and the provision of resources. However, it is worth pointing out that not all resources can be part of a service system. A central role is certainly played by firm-specific[4] resources, particularly those intangible, unique, rare, dynamic, non-imitable and non-substitutable (Barney, 1991), which Vargo and Lusch in logic SD include within the category of operant resources. Typical operant resouces are knowledge, skills-competences, dynamic capabilities, trust relationships, non-codified knowledge, strategic information confidential, and rooted in a synergistic network that form the basis upon which rest the competitive advantages of firms. However, there are two key operant resources from the perspective of successful innovation (Pascual, 2011):
a) the management of the individuals within the organisation as internal customers (internal marketing) because both the quality of the new service, and the ability to obtain qualified information on the evolution of market needs depend intrinsically on their collaboration and satisfaction;
b) organisational learning, which is an operant resource, difficult to imitate and transfer, which will allow the generation of new knowledge and ideas within the company, as well as the ability to understand and apply the said knowledge and ideas properly by employees when developing innovations (Damanpour 1991). Organisations that learn have the skills and knowledge required to anticipate and understand customers' needs, they have more advanced technology, and a greater capacity to know the strengths and weaknesses of their competitors and learn from their successes and failures (Calantone, Cavusgil, Zhao 2002).
These resources are opposed to tangible resources especially goods or raw materials, over to which consumer or a firm has allocative capabilities to act in order to carry out a behavioral performance. In this framework the evolving managerial perspective views the customer primarily as a source of operant resources for the firm co-producing the value derived from exchanges with the firm (Vargo, Lusch, 2006) and only occasionally a passive, operand resource (Vargo, Lusch, 2008).

Fig. 1 - Operand vs Operant Roles

[4] For the Resource Base View the resources and skills are the basis of a long-term strategy and is the main source of competitive advantage.



Source: Saviano, 2010 adapted from Beer, 1985.

This confirms that the structural configuration of a service does not fully explain a phenomenon and its implications; this needs to be integrated into a systemic interpretation in order to understand and then appreciate its ability to create value (Golinelli et al., 2010).
The theoretical construct that allows you to effectively interpret, in an overview of the role of multiple systemic entities (businesses, social organizations, individuals, organizations and institutions) that populate the context is Viable System Approach[5] (VSA). These entities enjoy an important and independent capacity to generate value, and tend to project expectations in a subjective manner, by reason of the pursuit of their own survival into the reference territorial context (Barile, Golinelli, 2008; Barile, 2011). As systemic theory, VSA is useful for the understanding of all decision-making processes of the organizations and individuals. It conceives the firm as an open system, immersed in an environment populated by other vital systems with which it interacts and exchanges information, material and energy, as conceptualized by von Bertalanffy in 1956. This approach argues that the survival and development of an organization depend on the governance's body ability to create value for the system itself and its stakeholders, through the consonance and trying to develop resonance in the interaction. The achievement of a high degree of resonance both inside and outside of the business system, is an expression of the systemic effectiveness, assumption of its vitality and of the survivability (Golinelli, 2000). Is precisely through the concepts of consonance and resonance that VSA is to support the S-D logic.
Consonance has been defined by Golinelli (2005) as a line of action for the governance body of the firm, relates to the implementation/maintenance of conditions of harmony, correspondence, alignment and dialogue with the context of reference.
It shall render the basic need for the firm to correspond to values, cultures and needs of the surrounding society and to find recognition and consideration at the various entities that populate it.
It can be conceived both in an internal and both external context. The first one, among the components that constitute the system, concerns the possibility to share resources in the business processes, in order to achieve a common goal if there exists a structural compatibility of each component with all others.
The external one, with the supra-systems, derives from the structural adequacy of the territorial "offer" with the expectations and needs of stakeholders. The consonance, thus, ensures a shared vision of the context, which is an essential prerequisite for the realization of the synergy relational.

[5] For further details see the contributions of Golinelli, 2000; Barile, 2000; Golinelli, 2002; Golinelli, 2005; Barile, 2006; Barile, 2008; Barrel, 2009c; Golinelli, 2010; Golinelli, 2011.

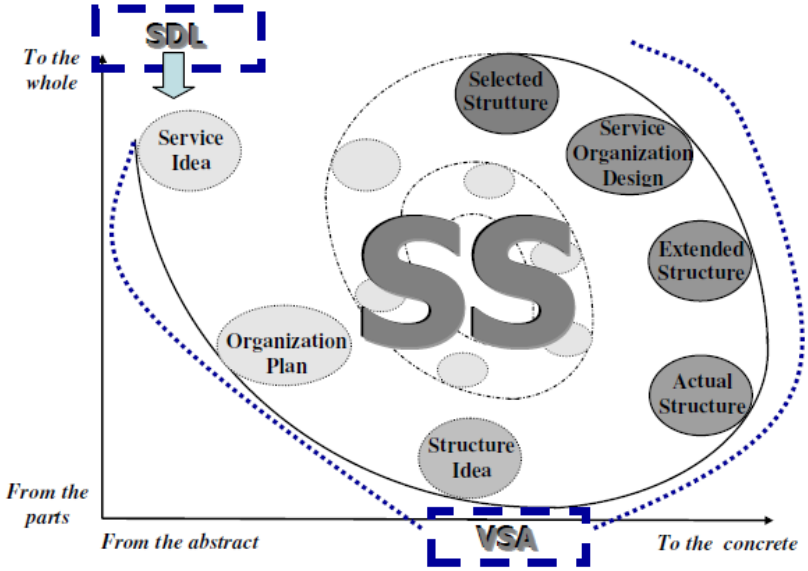
This means, infact, to share information units (data) and strong values through effective communication between all actors (nodes) of the network, in order to determine a general interpretative scheme of the environment (Barile, 2009) that, representative of the overall variety informative of the system, qualifies on one hand, the influence of the environment and, secondly, the synthesis of the active components interrelate (Piciocchi et al., 2012). The consonance is the necessary behavior to research and obtain social legitimacy, is a must so that the company can support the centrality who has qualified in the becoming of time, fundamental institution of economic progress, social and scientific. It is the lighthouse of which the single firm must equip itself for to deal with, in programmatic key, the advent of that capitalism that has been defined systemic. Indicating that form organized form of production in which firms are "under the spotlight, exposed to continuous assessments and to scrutiny of public institutions, shareholders, investors, consumers, professionals, workers, intellectuals and activists" (Golinelli, 2011). A viable system is characterized by the presence of a governance body composite, multi-subjective, with a high articulation of the decision-making process, and an Operating Structure typically multi-dimensional. An essential task of the governance body is to select in the supra-systems for the procurement of resources; devoting its attention to priority, interprets the needs, translates them into targets and designs a strategy for achieving them, mapping the necessary components and the network of relationships to activate (Barile et al., 2012). The selection made from the governance body is based on an assessment of the relevance of the entity observed as supra-system, which considers the criticality of the resource detained and the power of influence be implemented (Golinelli, 2000, 2005; Barile, Golinelli, 2008).

To this is added the necessary compatibility between the expectations of different supra-systems and between these and those of the sub-systems, identified on the basis of a correct projection of the underlying expectations, thus creating the conditions for the effectiveness of the viable system in the context. These expectations of effectiveness will have to be reconciled with operating mechanisms that ensure the efficiency necessary for a profitable management that enhances the use of resources.

The full exploitation of the resources in the definition of the operational mechanisms of the structure is, therefore, a fundamental leverage in a management system addressed at pursuing efficiency and effectiveness in a broad vision of sustainability. The perspective of the government body in order to maintain conditions of vitality over time, that affect on the firm as well as on all the actors on the context, must be constantly directed to monitor emerging issues in an environment characterized by high complexity. Complexity, understood as a logical sum of variety, variability and indeterminacy, the management of which requires appropriate interpretive skills of the endowment of knowledge of the governance body. It is on the basis of this capacity that the complexity can be tackled and, although only partially and in short term, reduced. In a context characterized by increasing systemic complexity, the turbulent environment therefore requires, as a priority, a continuous change that favors high levels of efficiency and effectiveness to not see undermined its position compared to competitors.

The systemic perspective opens to numerous cross-fertilization, with strands of research, with roots in systemic thinking that over the past decade suggest the paradigm of service as a general basis of the exchange generally tending towards a relational logic where aspects of sharing and interaction assume central importance (Barile et al, 2012). This implies that the focus on Services identifies in the VSA approach a tool with which to mark out a pathway starting from S-D Logic and logically developed by SS in perfect consonance with the General Systems Theory and the changing scenarios of global viability (Golinelli, Barile, Spohrer, Bassano, 2010).

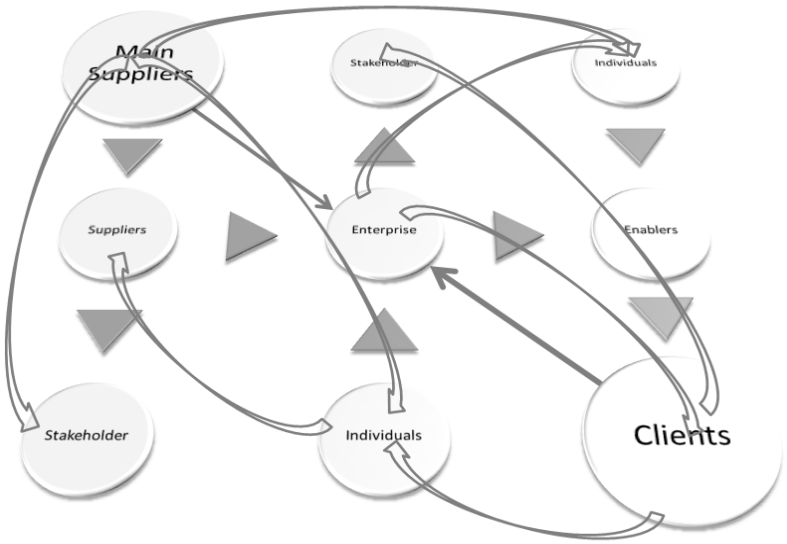
Fig. 2 - SDL-VSA-SS Convergence Framework



Source: Saviano, 2010 adapted from Golinelli, 2010.

Networking relationships were first emphasised in the 1970s when studies noted an increase in connections among firms characterised by exchange of information, continuity in relationships, and increased commitment, trust, and collaboration (Richardson, 1972; Hakansson, Ostberg, 1975). Various terms have been used to describe these voluntary ties among firms and other economic actors, including 'heterarchy' (Hedlund, 1986) and 'polycentic structure' (Forsgren, Holm, Johanson, 1991); however, the term 'network' has now become generally accepted to describe this emerging economic entity (Ghoshal, Bartlett,1990). Since in Service Systems interactions, ties and experiences among actors represent an important part of the system, it is important to deepen relationships within networks, starting from the analysis of the entities (internal and external) participating to the value creation processes of today's service systems. Among actors, customers play a key role, since they demand a personalised product/service, high-speed reactions, and high levels of service quality, influencing in this way every other actor's behaviour. Under service logics, customers provide a significant "plus" for production (co-creation) and therefore they may well be intended as fundamental for competitive and sustainable advantage achievement (Woodruff, 1997). Service providers are of course also part of the system, offering different kind of services and often anticipating customers' needs with a proactive behavior. Besides considering the classic dyadic links known to every observer today, in network activities there is also a need to consider the less visible relationships among all of involved entities (suppliers, enterprises, individuals, clients, stakeholders), which really contributes to the competitiveness of the whole system (Polese, 2009; Mele, Polese, 2011). Each node that acts as a part of business service processes represents a foundational partner and supports the whole system in its enjoyment of network advantages (resource-sharing, synergic interactions, common purpose, group power) for global value creation (Polese, Russo, Carrubbo, 2009).

Fig. 3 - Service System as Network: The Service Value Network



Source: Polese, Russo e Carrubbo, 2009

In today's scenario, network studies, including studies of root economic behaviour, resource allocation (Frels, Shervani, Srivastava, 2003), collaborative advantages and the importance of alliances, roles, and cooperative strategies (Castells, 1996; Gulati, 1998; Capra, 2002), contributes to the conceptualisation of the service value network (Allee, 2000).
Among the different approaches (Polese, 2009) that have investigated the structure and function of networks one most suited to the present paper examines network strategies-such as resources sharing and common goal achievement (Jarrillo, 1988; Jones, Hesterly, Borgatti, 1997).
The shift toward a network approach to the services ecosystem also changes the concept of value creation. While early research focused on value created at the relational level, value for consumers is now created at the network level, in which each actor contributes incremental value to the overall offering.
The conceptualization of the value chain within a service value network, as mentioned above, then infers that competitive advantage may be related not only on individuals' actors capacities, but also on every actors ability to reconfigure its own service systems, in accordance with its own competitive strategies and to the other actors of the value constellation in a co-competition logics (Brandenburger, Nalebuff, 1997; Stabell, Fjeldstad, 1998).

Service innovation in the company

The service-driven revolution has fueled, in the last years, an economic boom in which the majority of economic activity consists of services. In light of this revolution, service innovators need new formulas for success. (Möller et al., 2008). The most successful service suppliers aren't those that focus solely on their own skills and their own competitive advantages or on the current needs of their customers. Rather, suppliers that incorporate the experiences, skills and abilities of the clients in the creation of services are deemed to be able to co-create value in the future.
This shifts the focus from the expertise of the supplier to the availability of customer resources, and leads to foster mutual cooperation between the parties. There are three main ways of making use of customer input in service innovation (Kuusisto, Kuusisto, 2010). One option is to directly engage customers into the service innovation project. Another is to learn from customers or users by working in the customers‘ or users‘ context as the users engage in their normal activities. The third is to identify, build upon and commercialize innovations that users have developed for themselves (Kuusisto, Riepula, 2011). Therefore, the service innovation defines a new way of creating value for customers and generates a new service concept, new ways of interacting with customers, new

relationships with business partners, a new model of profits, new organizational forms and new delivery systems technology services (den Hertog, 2010). Obviously, the service provider will benefit from new value, at least in the long run, so that the innovation is introduced on the market. There are three innovation strategies of service that can be implemented: established services with competitive working markets; incremental service innovation targeting value-added offerings; and radical service innovation, which aims to produce completely novel offerings. These strategic modes differ considerably in their value creation logic by the extent to which they require collaborative multi-party value production and the relative intensity of that collaboration, as well as by their typical business models. The first service innovation strategy depicts an established service with well-defined and relatively stable value production logic. Generally, these services are produced under intense market-based rivalry requiring providers to focus on operational efficiency. Incremental service innovation describes a value-creation strategy in which services are employed for the incremental addition of value. The key idea is that through mutual investments and adaptations, a service provider and a client can produce more effective solutions than existing ones. Finally, radical service innovation describes an approach that pursues value creation through novel service concepts. The developers of these service innovations aim to produce new technologies, offerings, or business concepts as well as their commercialization through advanced services. Such future-oriented value production often involves radical system-wide changes in existing value systems and poses great uncertainty in terms of the value potential and value capture. Service innovation, then, can be described in terms of value creation through established service offerings, creation of added value through incremental service innovations, and the creation of future value through radically new service innovations.

The service innovation uses the distinctive resources, such as knowledge, creativity and skills and a great mix of their possible combinations, in order to capture the configurations of business more profitable and useful. The research literature, as evidenced by Aas and Pedersen (2011), argues that the effects at the firm level of service innovation are different from those of other types of innovation. Tether (2003), for example, argues that the effects of service innovation are largely qualitative and, therefore, are less tangible than the effects of other innovation efforts. Other scholars believe that the service innovation usually gives results in terms of customer satisfaction and customer loyalty, rather than on short-term financial performance (De Jong et al, 2003; Narver, Slater, 1990; Tether, Metcalfe, 2001). Infact, the literature argues that the intangible effects of innovation in services will have an impact on the financial results of the companies in the long term. An increased customer loyalty will most likely result in repeated purchases by the customer and recommendations to other potential customers. This will increase sales and consequently improve the company's financial performance (Narver, Slater, 1990). However, there are few studies that provide empirical evidence to support this report. It was also argued that due to the nature of the services (intangibility, heterogeneity), the impact of service innovations is more difficult to track in the manufacturing sector (De Jong et al., 2003, p. 61). To increase the value of their products and attract customers, the majority of manufacturing companies today offer a range of services in addition to their physical products. These companies use services primarily by encapsulate in their goods (Howells, 2004) and especially do not sell services as the main output. An example of this phenomenon is provided by Lu et al. (2005). They state that in the automobile industry, almost all automakers selling new cars in addition offer financial services, marketing, maintenance, repair, and different kinds of additional guarantees to those provided for by law (Lu et al., 2005, p. 340).

To carry out a full analysis of the effects of the service innovation, it is necessary to understand the effects of innovation activities of service both in manufacturing and in service activities. Due to differences in the conceptualization of service innovation in these two areas, the measurement of innovation activities of service must be adapted to each sector (Aas, Pedersen, 2011). From the empirical analysis conducted by Aan and Pedersen, in 2011, both on 3575 Norwegian companies operating in manufacturing industries and both on 1132 Norwegian companies operating in the service sector, it was found that firms focusing on service innovation have generated increased

productivity (sales for employee) than the growth of companies that have not focused on innovation of service. However, in the services sector, the increase in turnover from service innovation seems to be offset by increased costs. Which means that these companies are not able to benefit financially from their innovation activities. This is not the case of manufacturing enterprises, when the results show that companies focused on the activities of innovation services reach higher performance compared to those which are not oriented in the same direction, both in terms of operating margin both productivity. Furthermore, the results also indicate that the profitability as a business division for good, do not vanish by the companies focused on innovation activities of service. This is true for companies in both manufacturing and services.

The affirmation of the Science and Technology Park as a lever for the development of creativity and innovation.

The innovation, through the combination of creative ideas, resources and expertise, constitutes the leverage to gain competitive advantages that are the source of value creation and sustainable growth, to preserve and develop as one of the key components of the intangible heritage of company. It is able to generate a positive impact on the economic performance of companies through new combinations of products, services, processes, organizational structures, the identification of new sources of supply, exploitation of new markets, changes in strategy. The ability to innovate is also the source from which, very often, the intangible assets[6] are originated, whose contribution to the creation of firm value is manifested in the differential performance that the enterprise can achieve compared to its competitors, and the key driver of competing by helping to wipe out the competition, that not adapting quickly, is expelled from the market. As argued by Schumpeter is precisely the phenomenon of "creative destruction" to encourage creative activity and thus innovation, without which the firm would be destined to succumb.
The orientation towards innovation can derive both by the governance body and by the "lowest" levels of the business system (Amabile, 1996), although a fundamental influence may arise from the context. In particular, the territory in which the firm operates is considered as an active resource, a source of creativity and innovation, of strategic resources resulting from the systemic interaction of an "constellation of subjects." It is the place in which they arise and grow fertile centripetal movements of cohesion and interests promoted by the actors working in it contribute to the development of the territorial area to which they become protagonists. According to this view, the territory is not to be understood as mere geographical extension but as articulated complex of elements which, from time to time are attributable to it (Polese, 2005).
However, the territory not being able to evolve independently towards increasing levels of well-being and / or competitiveness, it needs policies and development programs stimulated and conducted in pro-active optical, conceived by different actors such as institutional bodies, centers or poles of excellence in production or research institutions, leading enterprises, industrial districts, clusters of smaller companies able to promote competitiveness. (Polese, 2005).
The search for competitiveness is the engine that allows to play on the market, conquering some superiority and / or by consolidating a distinction from its competitors and to the eyes of customers (Golinelli, 2011). The territory starting point of the competitive challenge of the enterprise, is the place where innovation is formed, or not formed, due to "creative atmosphere" that is breathe and to its ability to unravel the entrepreneurial and managerial thought by opening it to the world and to the enthusiasm for change (Formisano et al., 2012).

[6] "Innovation is not, primarily, a process induced by a technology or machines that you receive from the outside. The relevant innovation goes, especially, for other factors, if it is true - as is true - that in most of the sectors of Made in Italy is not so much selling goods (materials), but meanings and services (intangible) ", in E. RULLANI, *L'innovazione è capire il mondo dei consumi*, Il Sole 24 Ore, 2004a, pag. 21. In Search of Excellence and Peter Waterman, 1982 by studying the most successful American companies in order to identify the critical factors that led to the excellence, came to the conclusion that the best performance is determined by the conjunction of the optimal immateriality held.

It follows that creativity[7] is a resource capable of supporting with new ideas the corporate innovation strategies. It is precisely this factor that qualifies the action of the top management on the challenges brought by the sustainability in a context characterized by variety, variability and indeterminacy of phenomena. Challenges that can often be overcome by relying on their own creativity, understood as "imagination which must rest on the shoulders of the knowledge to generate innovation" (Baccarani, Golinelli, 2011).
Creativity can also arise from interactions between different subjects present within a network (Håkansson, Snehota, 1995; Barabási, 2002; Castells, 1996; Gulati, 1998), provided that: are activated relations based on exchange of knowledge in which the relationship between the parties is based on mutual availability, trust and collaborative skills, there is a clear attitude to change, is "driven by an evolutionary path reticular which produces changes in the interactive components" (Aiello et al., 2012)..
The theoretical relevance of the theme is reinforced by the growing influence that the most tangible result of the creative ability of an enterprise, namely innovation, generates in many industries of the current economic environment (Vicari, Cillo, Verona, 2005).
The innovation by making major changes in the organization of production, not only in terms of technology used in economic processes and in the coordinations productive, but above all at the level of management mechanisms and extension of enterprise organizations, has created a heightened consumer welfare through the development of new products and new services, a level of higher output quality, lower procurement costs, well as an increase in the publicly available information on the products and services on the market (Aiello et al., 2012). These changes generate an evolution of the reference models through the activation of a lasting network of relationships that allow to manage the complexity of the environment.
To make productive creativity and finalize it to phenomena of significant innovation, therefore, an essential element is the presence within or outside of the enterprise, of skills that integrate processes, products, people and situations (Vicari, Cillo, Verona, 2005) by encouraging cultural contamination pathways and processes fruitful of cross-fertilization between the systemic resources (Franch, 2010). Cross fertilization (Oggioni, 1998), considered as a leverage to strengthen a systemic innovation strategy at high value creation, drawing on, elaborating and transmitting transversely the knowledge resources resulting from heterogeneous entities, exogenous and endogenous to the firm, who have different backgrounds. It is considered "a phenomenon which does not concern a particular subject area but the border, the" search area ", that is generated between a disciplinary area and another". This concept, borrowed from studies in 1878 of J.C. Maxwell provides, therefore, the possibility of adopting innovations have already been tried in sectors / areas other, resulting in a transfer of skills and knowledge intersectoral that generate positive externalities (Conti, 2010).
For companies characterized by weak internal processes of cross-fertilization, in order to see grow their competitiveness, it becomes crucial to settle in contexts characterized by high intensity of relationships, able to promote learning processes, effective collaboration and innovation to create a sustainable development.
In contexts characterized by increasing systemic complexity, in this sense, a key role is played by the Science and Technology Parks (PST) considered crucial links in the value chain of entrepreneurs and as engines for economic development of a region able to form networks. The PST has been defined[8] as "an organization managed by specialized professionals, whose main objective

[7] Among the various definitions assigned to this concept in the literature, what we consider best suited to the study in question was provided by Boden who described it as "is the ability to generate Ideas that are new, surprising and valuable", in MA Boden, The Creative Mind: Myths and Mechanisms, 2nd ed., Routledge, London, 2004, p. 1.
[8] Butera (1999) defines the PST as "complex organizations, in particular organizations or quasi-lattice companies: ie organizational entities between hierarchy and market, identified in a territory equipped with asset values, economic, technical, that have a government based on cooperation of different actors capable of supporting, developing or drive the economic, technical and social oriented to specific purposes", in BUTERA F. (a cura di), Bachi crisalidi e farfalle. L'evoluzione dei Parchi scientifici e tecnologici verso reti organizzative autoregolate, F.Angeli, Milano 1999.

is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of enterprises and institutions based on the knowledge associated with it. To achieve this end, a science park stimulates and manages the flow of knowledge and technology amongst universities, R & D institutions, companies and markets; facilitates the creation and growth of innovation-based companies through incubation and spin-off processes, provides other value-added services together with high quality space and facilities" (IASP International Board, 6 February 2002). This entity, born in the United States, plays a crucial role in economic growth both developed countries and both the least developed countries of Eastern Europe, South America and Africa (Quintas et al., 1992).

The Science and Technology Parks for their mission, strategy and structure favor the creation of formal and informal networks of research and development to create synergies between the producers and users of research itself (Basile, 2010).

The arrangements for establishing a Park are different: for the parks major international success, the promoter is represented by universities, which have played a leading role, in others it comes from industrial companies or by these in collaboration with other bodies. After identifying the forces and interests available in the economic context in which it intends to operate, in order to attract them, the PST aspires to become a engine hub of innovation, of entrepreneurship and of internationalization, qualifying as a driving force for the local economy (Baccarani et al., 2009). The main actors, universities and businesses, operating within the PST recognize that science and technology are important sources of sustainable competitive advantages, where sustainability is to be understood not as a mere temporal duration but as resistance to imitation, to replacement and to durability, that the belonging to the same context (the park) constitutes a special network (Bassani et al., 2011), and that you can avail of the benefits, in terms of image and prestige, of the place where the park is located . The objectives that promote the creation of a science and technology park, for Baccarani et al. (2009), on the basis of an empirical research, are:

- the development and management of synergies between the different areas of expertise of the park (research and development activity, high-tech manufacturing, certification and training, etc.);
- the creation of mechanisms of transfer of the technology of horizontal type (from a productive sector to another) and vertical (between public research and innovative companies). Are then included in such activities, the transfer of technological knowledge (training and information), the experimental activities for the adaptation of the know-how to the specific situation of application (characteristics of raw materials and products, local regulations, etc.);
- the attraction of research units and design of high-tech companies, or rather companies with a high knowledge content, large or small, encouraging the development of external economies by agglomeration of knowledge and the birth of technology clusters;
- the activation and fitting of cooperation projects between universities, public research institutions and private companies, helping to transfer and disseminate knowledge;
- the performance of activities of "technological animation" to the territory, "seeking to stimulate local operators to undertake innovative activities";
- the incubation of firms of high-profile technology and innovation;
- the development of training initiatives for the creation of adequate resources to the needs innovative also of SMEs.

The same study revealed that there are many factors that are considered essential to the growth and success of a park, such as:

- the ability to innovate;
- entrepreneurial culture Widespread;
- experience in the International Business;
- *location factors*. In context, geographically equipped, there are facilities for R & D and training on the cutting edge from the technological point of view, and proximity to international transport networks and telecommunications;

- *structural factors*, as basic infrastructures functional to search, as establishments and Laboratories adaptable to the innovative capacity existing in the PST and in the territory of reference, making it possible to attain to a greater management efficiency;
- *strategic factors*, related to the availability of human and financial resources, sectoral and territorial planning of innovative activities, the presence of an extremely dynamic market, the knowledge of the area in question (especially in terms of supply and demand for research and technological innovation) and the predisposition of a general clear and broad program focused to local development in an international perspective;
- *relational factors*, in particular, the ability to integrate with all stakeholders in the area (research, academic and industrial), in order to establish a close relationship between academia and business, which allows the circulation and dissemination of ideas. It is also essential a strong connection with the local administrative powers, with banks and other local authorities, trying to feed a relational network both formal and informal;
- *professional factors*, such as availability of qualified and skilled staff, if not also motivated, in order to spread more entrepreneurial culture and create a certain propensity to incremental innovation and applied research;
- *factors of financial support*: no less important than other factors are: public intervention, for the stimuli by a financial point of view to the creation of new businesses, and the presence of creditors willing to assume the risk (venture capital).

However, many endogenous and exogenous factors may affect the degree of success of a PST. It is vital: put considerable attention to local development in an international strategic vision; know the area in question (especially in terms of demand and supply of research and technological innovation); succeed in establishing high levels of consonance with all stakeholders present on the territory: research, universities, businesses, local and regional administrations; promoting relations between large, small and medium-sized enterprises; provide real services; use techniques of project financing and finance programs facilitated national and community; create a structure influential although flexible and adaptable to the needs of the PST and the territory; be projected to the internationalization; owning a network model both of management of the PST, with PST or other similar entities.

As stressed by Baccarani et al. (2009), there are different types of services that a PST can offer on the basis of the potential and actual demand. From the logistic services, which are necessary for the establishment and operation of companies and research centers, to mainstream services that qualify a business center and advanced research operating in a context also internationally. Added to this there are: services for innovation, targeted to the needs of a competitive center for research and innovation, such as: financial services, incubation services to meet the needs of start-up and development of new businesses and new innovative activities, information technology services and computer centers, etc.; strategic services generally offered by the central structure of a Park for the care of institutional relations (public research organizations and private businesses, firms, regional entities economic, financials, etc.), with media, for communication initiatives and image, for the promotion of the settlement of companies and research centers external (marketing of the territory), for managerial and entrepreneurial training.

More specialized and at the same time most representative of the core business of a park, are typically international connection services, technology transfer and diffusion of innovation on the territory, of certification (of quality, the characterization, the homologation, control, the certification of production processes), of technology training, of incubation in support of innovative enterprises in the start-up phase, from conception to operations on the market, trying to grow in this way a management culture of the company and its growth.

Therefore, the PST can fill the role of strategic nodes of a network in which converge intangible and financial resources, that generate processes aimed at achieving innovation to be transferred in the territory (Basile, 2010).

The case PA.L.MER.

The Pa.L.Mer. was born in 1994 from the merge of "*Parco Scientifico del Basso Lazio" (PABLA)* and of the "*Parco Tecnologico Pontino" (PTP)*. Expression of the territory of Southern Lazio, is participated by Filas, the Provinces and the Chamber of Commerce of the provinces of Latina and Frosinone and the University of Cassino and Southern Lazio.
The company aims to regulate, develop and coordinate activities aimed at promotion, implementation and management of research programs, pilot testing and dissemination in the areas of innovation, technological and organizational science, and also the study and implementation of actions aimed at environmental protection, to specialist formation, to qualification of enterprise systems and products, by operating on their own, for behalf of the state, public authorities and third parties in General to support economic and cultural development of businesses and other entities both public and private, operating in the region of Lazio and in any other territory of the European economic community. For these purposes the company promotes, builds and runs a science and Technology Park, understood as an innovative territorial node and as intelligent node of a techno-economic network aimed at facilitating the mobility of technological resources in the territorial systems, to encourage the development of new businesses and promote rooting of new knowledge and technologies in local economies.
In particular the company, who operates within the sectors of agribusiness, environment, electronics-microelectronics, energy, ICT Information and Communications Technology, innovative materials, technological transfer, has for object:

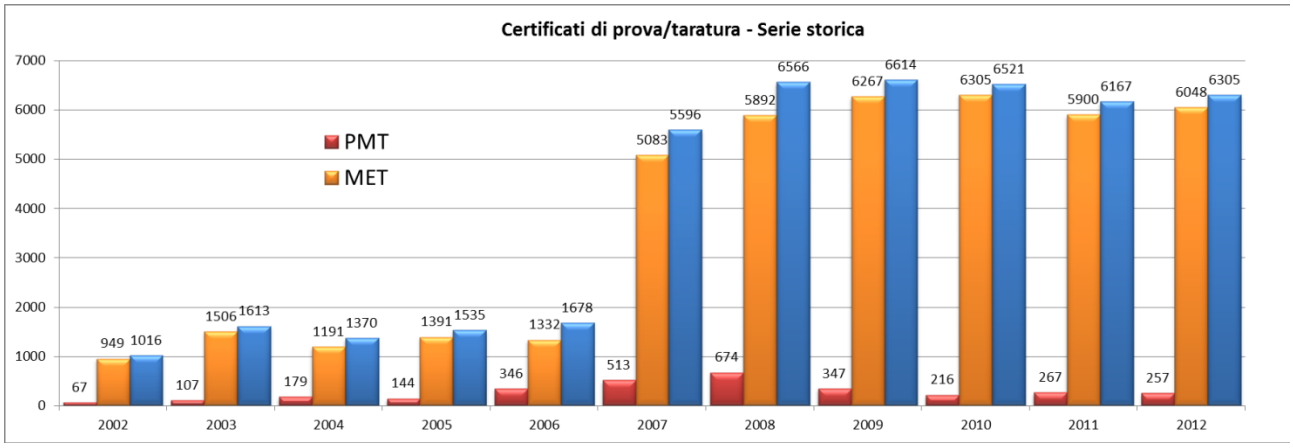
- the elaboration, the conduct and implementation of feasibility studies and projects relating to scientific and technological park;
- the fitting with the national and international scientific community, with public and private institutions and enterprises still interested at the realization of the science and Technology Park;
- the promotion of technology transfer and culture integration between universities, research centres and industry, as a means of growing socio-economic system;
- the realization of highly specialized training activities aimed both to the development of the management capacity of the Park both to the strengthening of the operational structures of the companies;
- activation and management of financial instruments for the aims of the company.

The PALMER has two testing laboratories and analysis at the headquarters of Latina and Ferentino. Both are accredited by SINAL (national system for accreditation of laboratories).
In Latina are performed analysis for the characterization of agri-food products. This characterisation can lead to certification of food products typically with investigation of the organoleptic characteristics and the absence of unwanted substances and/or harmful present in soils, in fertilisers, in the irrigation water and in the drinking water.
The agrifood, environmental & chemical laboratory is today an important reference point for the whole of Southern Lazio.
It is able to satisfy every kind of request analysis to ascertain the characteristics of food products, also to assess any improvement as a result of specific interventions.
Its main function is to add value at the agricultural food production with the spread of their quality, in accordance with the urgent request that comes from the presence of a fierce market competition. It operates in compliance with ISO 9001: 2000 and ISO 17025: 2005. Among its objectives, this laboratory has also that of finding innovative analytical methodologies that enable the determination and characterization of any type of food matrix.
The commitment is precisely in the willingness to learn, to know and to experience new ideas provided in the analytical field.
The passion for technology and analytical instrumentation are the predominant features of the Laboratory team.

Sophisticated equipment allows to respond efficiently and quickly to the immediate demands of the market, proving competitiveness and professionalism.
The activities are designed to check, verify and define the compliance of the values of the parameters established by the national and Community rules in force (particularly for toxic and harmful substances in soil, in the water and in food products) to protect human health and to ensure that these values are lower than those limits. The analytical capabilities have been extended to other types of controls such as that of pollutants, such as medicines and pharmacologically active principles of last generation, whose presence is signaled by the EEC with increasing concern in foods and in new food sources.
The list of services includes:

- controls on drinking water, of irrigation and of exhaust;
- analytical controls on qualitative and quantitative content in elements fertilizers of the most common chemical fertilizers used in agriculture;
- residual analysis on food products, on the soils and on the waters;
- controls on the processing industry products (olive oil, dairy, tomato and wine);
- analytical checks of agrifood composts of various kinds (raw materials and finished compounds);
- controls on the flexible packaging intended to contain food;
- controls on finished products and semi-finished of the industry of the medical-surgical devices, cosmetics and ophthalmic;
- calibration services of the scientific and technical Instrumentation;
- training for the application of ISO 17025: 2000;
- consultancy in industry of organic production vegetable.

This laboratory has qualified personnel, careful to incorporate the changes in the regulatory landscape relating to the various sectors of intervention offered (environmental, industrial and food), achieved an increase over the 2010-2012 period in terms of turnover (which is between the 350,000 and 400,000 euro) that of analysis carried out.
In Ferentino, has its headquarters the mechanical and technological laboratory. The laboratory for quality control of products and materials performs the main characterizations in the field of metals and of the plastic materials (mechanical tests, artificial accelerated ageing, determination of thermal and electrical characteristics). They are made even qualification processes, outsourced testing and testing of prototypes. The PALMER labs of Ferentino (FR) for quality control are equipped with modern equipment capable of performing the most important tests and calibrations in the industry of greatest industrial interest.



Source: our elaboration on PA.L.MER'S data

The ability of the staff combined with the rich endowment of equipment covers a wide range of technical performance such as to make the potentiality suited to quality control both in production cycles of different types, and in prototypical stage when you design the product quality assurance.
For the Quality assurance of its own services the Palmer laboratory has the following accreditations and certifications:

- SINAL for testing mechanical and technological (ISO 17025)
- BVQI for the corporate organization (ISO 9001)
- SIT for calibrations in mass and length industry (ISO 17025).

The Park also offers, in collaboration with other qualified laboratories, a service of tests and calibrations "*chiavi in mano"*, for management, both technical and organizational, of the most common problems in firms. In this field the calibration can be made, if necessary on the spot, of the equipment of the most varied measurement and control, responding thus to the basic requirements of the provisions from ISO 9000 series standards regarding the management of measuring instruments, control and testing. Similarly, it can provide to interested companies the advice of qualified staff for the management of qualification tests and approval of new products, to process studies and research into new technologies, looking for possibly more reliable laboratories for carrying out the tests not directly carried out at its headquarters.
The Laboratory of technological tests, as already mentioned, is credited sinal for the execution of the main mechanical characterization tests of the materials and the qualification and certification of products. Pa.L.Mer. is among the few qualified laboratories by Sinal in Italy for the determination of resistance to horizontal loads on road signs. In the laboratory of technological tests are carried out characterization tests on adhesives and bonding of composite materials, mechanical tests on solar collectors and systems and execution of thermal cycles on metric legal tools, tests for the determination of some electrical characteristics and the degree of color of the surface and painted finishes.
Are also carried checking viscosity, of resistance to combustion and of the heat distortion of plastics, as well as for the determination of the thickness and the degree of adherence of surface coatings and paints.
In the laboratory of environmental tests are conducted simulations of the environmental conditions to which it may be subjected the product/material during his technology lifetime (heat, cold, humidity, thermal shock, xenon irradiation and saline mist). These devices are also used for the conditioning of test pieces prior to the execution of particular cycles of testing.
In the laboratory of metrology, in a controlled environment (temperature 20° C, relative humidity below 50% RH), are made with cutting-edge equipment, calibrations in the principal industrial sectors of interest, with particular reference to length and mass in addition to temperature, pressure, strength. In the 3D room, always under thermal control, may be carried out measurements and characterizations dimensional of finished products and production batches. Are also achievable on site calibration of machine tools with numerical control, also by means of laser technique. The whole thing comes in the guarantee of traceability of national standards, metrology using documented procedures and by qualified personnel and continually updated as required by the rules of the quality management.
Despite the difficulties due to a global crisis, the process of consolidation of the structure of Ferentino showed positive results at the end of 2012, customers now counting on a wide, varied and consolidated but especially on contracts Agusta Westland, autovelox and MID.
However, for the future reductions are expected in the field of calibration data, the laboratory should therefore identify new opportunities for growth in other sectors (MID, extensions accreditations). The accredited tests (LAB) will continue to have pushups.
The Pa.L.Mer. conducts research and pre-competitive development and diffusion of innovation through its ties with laboratories and University departments (primarily the University of Cassino and Southern Lazio and of Rome La Sapienza) and with other science parks and research bodies. The role played in this area is therefore to:

- encourage dialogue between business, Universities and research bodies, and promote innovation (product, materials and processes);
- research on the reference territory of the undertakings concerned precompetitive development and / or to the industrialization of research results, by handling the planning and coordinating of the intervention;
- bring near enterprises at the institutional research entities and to local, regional and national administration, to the management of funds for research and for innovation by identifying, downstream of the stresses of the business world, the tools and the opportunities both of scientific and technological character and industrial and financial.

This mechanism is realized through the transfer of skills within the universities and research centres, adapting them from time to time on specific industrial and territorial reality, in consultation with the associations, mainly also identifying the necessary tools facilitative also to the addressees of the transfer.

The Pa.L.Mer. opera also in specialist training directed both to businesses and to young graduates and high school graduates. The training courses are the fruit of the experience of academics that from time to time designing courses on specific needs, in order to ensure maximum formative results. In In addition to the development of themes and standard training courses on the calendar, The Park supports and shapes directly in the field internal personnel to companies in cycles of intensive training and updating.

PALMER's approach and assistance to the enterprise is realized through proper planning and with the continue involvement of technicians and business administrators throughout the process.

One of the key roles of the Park, hence, is expressed on "'Innovation and transfer". Thanks to the recognition of the needs of the companies through a systematic contact activities carried out by Pa.L.Mer. it is possible to identify opportunities for development and technological innovation.

The Polo of Cassino was born thanks to the co-operation of the University of Cassino and aims on the territory of Southern Lazio as a centre of excellence for the diffusion and dissemination of knowledge related to Information Communication technology. The Pole has academic classrooms and computerized classrooms and operates in accordance with ISO 9001: 2000, the Test Center at the University of Cassino for the release of E.C.D.L. and Certification, is accredited to deliver training on the topics of mechanics, electronics, Business Management, information technology, textile/clothing and marble processing.

There are several research projects completed by the Park.

That of Training has set the objective to train human resources to increase the competitiveness of enterprises in terms of knowledge.

The training activities are implemented through:

- training aimed at refocusing professionalism and expertise available in the companies interested in Pa.L.Mer research projects;
- formation of recent graduates as "tutor of firm", with skills that facilitate the diffusion of innovation in enterprises of southern Lazio.

The Quality project has the goal to provide, to the SMEs of the Southern Lazio, indispensable research services to achieve high quality standards. This is an important tool for strengthening the overall competitiveness of the territory. To this end, it was decided to create or strengthen a network of laboratories and centres of advanced services to help companies to achieve and maintain the quality standards required by international Regulations and by competition.

This topic has been addressed through the provision of:

a) horizontal services:

- assisting companies in solving metrological problems, provide calibration services and calibration; disseminate information on proper management of instrumentation and on the measurement procedures;

- to support companies wishing to develop innovative materials, by offering services, and by transferring knowledge about the integrated design of innovative materials and of its production processes.

b) specialized services for specific sectors:
given the difficulties that small and medium enterprises encounter both in the adapting to new laws competitive and to find support in the service structures proposes to:

- provide analysis and services aimed at improving merchandise quality and hygienic food products and production processes;
- provide advisory services on the certification of company quality systems in the construction industry, offering, at the same time, laboratory services for carrying out tests and checks, aimed at quality control of the construction process.

The Park currently has many active projects.
The technology center of excellence for microelectronics, CETEM is a Pa.L.Mer structure dedicated to scientific research and advanced design of microelectronics applications to SME service with particular attention to the productive of objective 2 area of the Lazio region. The Mission of CETEM is: make possible access to microelectronics technologies by SMEs to foster innovation of their products and/or their production processes and increase their competitiveness in national and international markets. The potential of CETEM is expressed in the design, of prototype construction and characterization equipment employing experimental techniques of functional integration. These allow to insert various functions in a single block to reduce the size and the cost of the apparatus improving so performance and reliability. The CETEM arises from the close collaboration between the Pa.L.Mer. and the research facilities of the University of Cassino and Southern Lazio and can count on the availability of qualified human resources, advanced machinery, CAD tools advanced design and the highest level of professionalism in the various fields of Industrial Engineering and information.
Through this structure, SMEs have available advanced design techniques and manufacturing technologies which increase the degree of innovation and of the competitiveness of their products. The use of the techniques of functional integration provides a number of advantages such as: the reduction of costs and of the size, improved performance and reliability of the equipment, a better chance to protect the products from undue imitations.
Within of the mechanical measure and of the characterization of materials in the field of low, medium and high speed of deformation, the Centre of Excellence in Mechanics has as its objective:

- the creation of a center of excellence on the issue of characterization of the dynamic behavior of materials, in addition to the existing facilities of the laboratory mechanical and technological Pa.L.Mer. of Ferentino;
- the design and realization of technological testers aimed to measure the dynamic behavior of materials in the field of medium-high strain rate;
- technology transfer to SMEs of the measure capacity and of the characterization, of enforcement of new types of mechanical tests,of the know-how required for the realization of the devices.

Therefore, SMEs involved in the project and those of the reference area of the center, will be able to deal with increased security of the customers and the new markets, diversify their production and engineering of new processes / applications for traditional materials (increase of the information observable in a single test, ease of testing, cost reduction). The sectors concerned are:

- Defense ("*Sistemi blindati e anticorazzati - Dispositivi ad energia cinetica e chimica - Onde d'urto ed esplosioni sottomarine"*);
- Aerospace ("*Impatti con frammenti o rottami spaziali - Carichi impulsivi con onde d'urto o esplosivi - Collisioni con uccelli in volo"*);
- Petrochemicals ("*Esplosioni di gas e polveri - Simulazioni d'incidenti - Perforazione di pozzi d'estrazione"*);

- Nuclear ("*Interazione tra fluidi e strutture - Urti tra aviogetti e missili – Disattivazione di impianti nucleari - Esplosione di tubi"*);
- Transports ("*Sicurezza - Esplosioni in veicoli e tunnel - Dinamica dei passeggeri - Resistenza agli urti"*);
- Research ("*Dinamica dei solidi, dei liquidi, e dei gas - Studio della dinamica delle onde d'urto - Sviluppo di modelli costitutivi").*

A center of technological excellence in the industry of ICT of the Pa.L.Mer. is ICTdemolab, founded by the Pa.L.Mer., University of Cassino and Southern Lazio and "*Sezione Terziario Avanzato dell'Unione Industriale*" of Frosinone, with the intention to be a point of reference within the Information and territorial Communication Technology (ICT) in support of SMEs. The structure intends to implement a bottom-up approach in which the needs of innovation come from below rather than be pushed from the outside. Through an observatory function, listens to the territory for understand the need for innovation and to start the implementation of projects aimed at providing products and services geared to meeting the needs emerged.

The project "Innovation and Agro Development" is intended to provide interested companies a simple and cheap self-test of the quality of their products. In particular, the chains involved are those agro-food, environmental and pharmaceutical-cosmetic, for which the traditional methods of verification of the process and of the product are based on a complex and expensive instrumentation required for the determination of individual components and on the comparison between the concentration values obtained and those of national and international standards of quality. With the identification of some integral marker of quality and safety (toxicity integral, antioxidant power, kinetic and thermodynamic stability), you can bring the quality verification, to that of recording of the signal of a suitable sensor system operating on a different principle from the electronic nose, as it is based on the response of different materials, each operating separately from other (as opposed to what happens for electronic nose and tongue).

These sensors will be provided to the SME concerned in order to allow them to test responses in correspondence of different commodity items concerned. The SMEs will be able to have a self-assessment system that will allow them to periodically verify the proper functioning of its production facilities and the quality of the products obtained. It will also be possible to extend the information on the characteristics of the products, by adding information that are not yet part those required by law, for each product intended for human consumption, but which in the future may represent a marker of quality even more significant than those currently adopted

He is currently active project PINN-PALMER that involving four technological platforms, intended as the relevant policy areas: Aerospace / Nautical-LabiMAT; Biotech / Pharmaceutical Chemistry, ICT / Tourism; Energy.

Each platform uses Development Research Unit (URS) representing micronets of scientific and technical resources to which to refer for the Entrepreneurial Projects (PI) covered by these measures vertical intervention.

A Entrepreneurial Projects is an technology transfer that is proposed to the firm, providing to the same all the technical skills - science needed to ensure a transfer appropriate to achieving the goals of competitiveness and corporate innovation.

Are planned both horizontal actions for dissemination and promotion of vertical transfer direct to businesses. The first of the horizontal actions called Market Place, aims to disclose and disseminate the project to local SMEs in order to receive from them the greatest possible number of Expressions of Interest in order to refine the 20 Technology Transfer, PINN goal of Project - PALMER. To do this: Testers have been made by the Technology Platforms. For the implementation of activities relating to this project, has set up a repertoire suppliers / consultants called "REF / CO" (Repertoire Suppliers / Consultants self-certification) in order to identify the most suitable resources for their implementation.

The activities carried out in 2012 were also aimed at providing an effective range of services to assist SMEs in seeking opportunities for collaboration with other research institutions and interaction with key stakeholders (local authorities, trade associations, etc.), territorial.
All this despite an overall context in which critical issues have emerged for companies in the implementation of research and development and to sustain the related investments, critical issues that unfortunately still not resolved and that may affect the activities of the Park at least the next two years.
Significant was therefore, in technical and economic terms, the activity carried out, commissioned by Benelli Armi Spa, in partnership with the spin off of the University of Cassino Techdyn Engineering. The research project has been directed to conduct the study and development of a bank-owned and a numerical tool for the advanced design of canes semi-automatic rifles.
Such a database, formed by both experimental data and output from numerical models, advanced qualification is aimed at the production of Benelli Armi SPA with particular reference to the realization of elements the barrel of semiautomatic rifles through the identification of the critical with respect to the qualification tests (tests of obstruction) in relation to an objective of improvement of product.
The results of this activity can be used in the analysis and to verify structural integrity of structural elements barrel shotgun and optimization of new geometric configurations (eg varying thicknesses) for the production of Benelli Armi.
Pa.L.Mer. took care of the coordination of design, implementation and analysis of characterization tests and validation.
To compendium of the above considerations, it is important to highlight the role as a link between companies and research institutions, typical of the mission of Palmer, which allows you to focus, at the light of the stresses of the business world, the tools and the opportunities of both technological, scientific and financial character. All this aims at the development and scientific innovation to local businesses, starting from the recognition of their needs and by identifying the skills technical - scientific most suitable for successful collaborations. This goal is pursued through a two-pronged strategy of intervention.
A top-down approach, which sees the Pa.L.Mer. to manage the assistance from their design, through specific tools facilitation aimed at businesses transferred. A bottom-up logic in which the action of the Pa.L.Mer., acknowledging the requests and needs of individual firms, is active in the identification of operational methods and channels of support appropriate to encourage the development of the productive context.
The consolidated operating experience in these areas allows one hand to Pa.L.Mer., to implement at local companies an increasing number of transfers of skills and knowledge, on the other, to bring out their propensity to innovation.

Conclusions

The innovation, through the combination of creative ideas, resources and expertise, constitutes the leverage to gain competitive advantages that are the source of value creation and sustainable growth. Sustainability that is realized when you achieve high levels of consonance between the actors involved in the processes of co-creation.
In the perspective of sustainability, the approach used and the model of the Science and Technology Park make it possible to service innovation particularly for SME's, which individually would not have the financial resources and expertise to "sustain" innovation. Services seen as “a kind of interaction between entities in a reticular system, finalised to improve value co-creation outcomes under a win-win logic inside interrelated processes” (Polese, Russo, Carrubbo, 2009).
The centrality of a continuous interaction between the actors in order to co-create value is widely supported by the theoretical approaches of the Viable System Approach, the Service-Dominant Logic, the Service Science and Network Theory.

In this context, the service value network applied by Palmer was able to achieve the significant results, for the actors working in the area of expertise, in terms of creating shared value. They are the actors that contribute significantly to the process of creating value by focusing on their core competencies and cooperating with other actors in the network, thus creating a virtuous circle.
In the case under study, the aim of co-creation is realized through the provision of effective offer of services to SMEs, in a context in which have emerged critical issues for companies in the implementation of research and development and incurrence of related investments.

References

Aas T.H. and Pedersen P.E., The impact of service innovation on firm-level financial performance, The Service Industries Journal Vol. 31, No. 13, October 2011, 2071–2090.

Aiello G., Donvito R. and Grazzini L., Network creativi, network innovativi e territorio, Proceedings of the XXIV Convegno annuale di Sinergie, Lecce, 18/19 October 2012, 627-640.

Allee, V., Reconfiguring the Value Networ, *Journal of Business Strategy*, n.4, 2000, 36–41.

Amabile M. T., Creativity and Innovation in Organizations, Harvard Business School, 1996.

Baccarani C., Brunetti F., Giaretta E., (eds), Parchi scientifici e tecnologici, finanziamento all'innovazione e servizi di private equity per la creazione di imprese, Research Report of the Unit of Verona, FIRB 2003, Ridisegno della struttura finanziaria delle reti di imprese, 2009.

Baccarani C., Golinelli G.M., Cultura e impresa, un legame vitale, Sinergie rivista di studi e ricerche, n. 85, May-August 2011, 7-14.

Barabási A.L., Linked: The New Science of Networks, Perseus, Cambridge, 2002.

Barile S., Verso la qualificazione del concetto di complessità sistemica, Sinergie rivista di studi e ricerche, vol.79, may-august 2009, 47–76.

Barile S., Management Sistemico Vitale, Giappichelli, Torino, 2009.

Barile S., The dynamic of information varieties in the processes of decision making, Proceedings of the 13th World Multiconference on Systemics, Cybernetics and Informatics: WMSCI, Orlando, USA, 2009.

Barile S., Management sistemico vitale, International Printing, Avellino, 2011.

Barile S., L'Approccio Sistemico Vitale per lo sviluppo del territorio, Sinergie rivista di studi e ricerche, n. 84, 2011, 47-87.

Barile S., Golinelli C.M., Modalità e limiti dell'azione di governo del territorio in ottica sistemica, in Barile S., (eds), *L'impresa come sistema. Contributi sull'Approccio Sistemico Vitale* (*ASV*), Giappichelli, Torino, 2008, 243-268.

Barile S., Polese F., Smart service systems and viable service systems, in Service Science, Vol.2 No.1/2, 2010, 21-40.

Barile S., Saviano M., S-DL, VSA and SS – Highlighting Convergences, *International CooperLink Workshop The emerging Perspective of Service Science for Management and Marketing Studies*, Naples, June 9, 2010.

Barile S., Saviano M., Polese F., Di Nauta P., Il rapporto impresa-territorio tra efficienza locale, efficacia di contesto e sostenibilità ambientale, Sinergie rivista di studi e ricerche**,** n. 90, January-April 2013, 25-49.

Barney J.B., Firm resources and sustained competitive advantage, Journal of Management, Vol. 17, 1991.
Basile A., Networking e output innovativi. I Parchi Scientifici e Tecnologici, Sviluppo e organizzazione, 2010, n. 241, 49 – 62.

Bassani S., Bettinelli C., Dossena G., Sanz L., Parchi Scientifici Tecnologici e loro contributo ai sistemi locali per l'innovazione: evidenze empiriche, Sinergie rivista di studi e ricerche n. 84, 2011, 157-177.

Beer S., "Preface", in Maturana, H.R., Varela, F.J. Autopoietic Systems, BLC Report 9, University of Illinois, 1975.

Boden M.A., The Creative Mind: Myths and Mechanisms, 2nd ed., Routledge, London, 2004.

Brandenburger A.M., Nalebuff B.J., Co-opetition, Doubleday, New York, 1997.

Butera F., (eds), Bachi crisalidi e farfalle. L'evoluzione dei Parchi scientifici e tecnologici verso reti organizzative autoregolate, F. Angeli, Milano 1999.

Calabrese M., Bologna L., Iandolo F., Bilotta A., Sostenibilità e valore nei rapporti impresa-territorio, Proceedings of the XXIV Convegno annuale di Sinergie, Lecce, 18/19 October 2012, 419-436.

Calantone R.J., Cavusgil S.T., Zhao Y., Learning Orientation, Firm Innovation Capability, and Firm Performance, *Industrial Marketing Management*, 31, 2002, 515–524.

Capra F., The Hidden Connections, HarperCollins, London, 2002.

Castells M., The rise of a network society, Blackwell, Oxford, 1996.

Carrubbo L., La service science: stimoli e proposte per un destination management competitivo, Impresa Ambiente e Management, vol.4, n.2, 2010, 229-270.

Castells M., The rise of a network society, Blackwell, Oxford, 1996.

Conti G., Fashion, innovation, identity: cross fertilization from design to service, Redige, vol. 1, n. 1, 2010.

Damanpour F., Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators, Academy of Management Journal, 34, 1991, 555–590.

De Jong J.P.J., Vermeulen P.A.M., Organizing successful new service development: a literature review, Management Decision, vol. 41, n. 9, 2003, 844-858.

Formisano V., Russo G., Il ruolo degli intangible nei modelli di rating, in M. Modina e V. Formisano, (eds), Il rating tra impresa, banca e territorio, Sinergie, Rapporto di ricerca n. 36, november 2012, 393-394.

Forsgren M., Holm U., Johanson J., Internalisation of the second degree, Uppsala Working Paper, Uppsala University, 1991.

Franch M., Le frontiere manageriali per la valorizzazione della cultura e dell'arte, Sinergie rivista di studi e ricerche n. 82, 2010, 95-107.
Frels J.K., Shervani T., Srivastava R.K., The Integrated Networks Model: Explaining Resource Allocations in Network Markets, Journal of Marketing, 67 (January), 2003, 29–45.

Golinelli G.M., L'approccio sistemico al governo dell'impresa, Padova, Cedam 2000.

Golinelli G.M., L'approccio sistemico al governo dell'impresa, L'impresa sistema vitale, Cedam, Padova, 2005.

Golinelli G.M., L'approccio sistemico vitale (ASV) al governo dell'impresa. Verso la scientificazione dell'azione di governo, vol.II, Cedam, Padova, 2011.

Golinelli G. M., Barile S., Spohrer J., Bassano C., The evolving dynamics of service co-creation in a viable systems perspective, Proceedings of the 13th Toulon – Verona International Conference, Coimbra - Portugal, September 2-4, 2010.

Ghoshal S., Bartlett C. A., The Multinational Corporation as an Interorganizational Network, Academy of Management Review, 15, 4, 1990, 603–625.

Gulati R., Alliances and Networks, Strategic Management Journal, vol.19, 1998, 293–317.

Gummesson E., Marketing Relazionale, Hoepli, Milano, 2006.

Gummesson E., Polese F., B2B is not an island!, Journal of Business & Industrial Marketing, vol.24, n.5, 2009.

Gummesson E., Lusch R.F., Vargo S.L., Transitioning from Service Management to Service-Dominant Logic: Observations and Recommendations, Special Issue of the International Journal of Quality and Service Sciences, 2, 1, 2010, 8– 22.

Håkansson H., Östberg G., Industrial Marketing: an organizational problem?, Industrial Marketing Management, vol.4, n.2/3, 1975, 113-123.

Håkansson H., Snehota I., Developing Relationships in Business Networks, Routle, New York, 1995.

Hedlund G., The hypermodern MNC - a heterarchy?, Human Resource Management, n.25, 1986, 9-35.

Hertog P. den, Managing Service Innovation: Firm-level Dynamic Capabilities and Policy Options, Dialogic Innovatie & Interactie, Utrecht, the Netherlands, 2010.

Howells J., Innovation, Consumption and Services: Encapsulation and the Combinatorial Role of Services, The Service Industries Journal, vol. 24, no. 1, 2004, 19-36.

IFM, IBM, Succeeding through Service Innovation: A Service Perspective for Education, Research, Business and Government, University of Cambridge Institute for Manufacturing, Cambridge, UK, 2008.

Jarrillo J.C., On strategic network, Strategic Management Review, vol.9, 1988, 31-41.

Jones C., Hesterly W.S., Borgatt, S.P., A general theory of network governance: exchange conditions and social mechanisms, Academy of Management Review, vol.22, n.4, 1997, 911–946.

Kotler P., Marketing Management: Analysis, Planning,Implementation, and Control, Upper Saddle River, Prentice Hall, 1977.

Kuusisto A., Riepula M., Increasing custoemr value by service innovation - Towards a conceptual framework, Conference Proceedings of the 2011 Naples Forum on Service, Capri, Italy, 14-17 June.

Lu I-Y, L-H Lin, G-C Wu, Applying options to evaluate service innovations in the automotive industry, International Journal of Technology Management, 32(3/4), 2005, 339–349.

Lusch R.F., Vargo S.L., The Service-Dominant Logic of Marketing: Dialog, Debate, and Direction, ME Sharpe: Armonk, 2006.

Lusch R.F., Vargo S.L., O'Brien M., Competing through service: Insights from service-dominant logic, in Journal of Retailing, vol. 83, 2007, 5-18.

Maglio P. P., Srinivasan, S., Kreulen, J. T., Spohrer, J., Service systems, service scientists, SSME, and innovation, Communications of the ACM, July, vol. 49, n. 7, 2006, 81-85.

Maglio P.P., Spohrer J., Fundamentals of service science, Journal of the Academy of Marketing Science, Vol. 36 No. 1, 2008, 18-20.

Maglio P.P., Spohrer J., Special issue on Service Science, Management, and Engineering, IBM Systems Journal, vol.47, n.1, 2008.

Mele C., Polese F., Key dimensions of Service Systems: Interaction in social & technological networks to foster value co-creation, in Demirkan, H., Spohrer, J., Krishna, V. (eds), *The Science of Service Systems*, Springer, 2011, 37-59.

Möller K., Rajala R., Westerlund M., Service Innovation Myopia? A new recipe for client-provider value creation, California Management Review, vol. 50, n. 3, spring 2008, 31-48.

Narver J.C., Slater F.S., The effect of a market orientation on business profability, Journal of Marketing, October, 1990, 20-35.

Oggioni E., La cross fertilization, in Oggioni E., Rolandi A. (eds), Performance improvement: il miglioramento delle prestazioni organizzative attraverso lo sviluppo delle competenze, Etas Libri, Milano, 1998.

Pascual, P., The success of service innovations: implications for firm's competitiveness, in Gummesson, E., Mele, C., Polese, F. (eds), *Service-Dominant Logic, Network & Systems Theory and Service Science*, Giannini, Napoli, 2011.

Piciocchi P., Siano A., Bassano C., Conte F., Smart Local Service System. "Governamentalità intelligente" per la competitività del territorio, Proceedings of the XXIV Convegno annuale di Sinergie, Lecce, 18/19 October 2012, 231-244.

Pilotti L., "Una Premessa", in Pilotti L. (eds), Creatività, innovazione e territorio. Ecosistemi del valore per la competizione globale, AIDEA, Il Mulino, Bologna, 2011.

Polese F., I protagonisti dello sviluppo del territorio, in Polese F., "Risorse e identità locale per la valorizzazione del territorio: un percorso difficile di integrazione sistemica e networking" (eds), in Sviluppo del territorio: Identità e integrazione - Il caso del Parco Nazionale del Cilento e del Vallo di Diano, Collana IRAT – CNR, 2005, 155-180.

Polese F., The Influence of Networking Culture and Social Relationships on Value Creation, Sinergie, n.16, 2009, 193-215.

Polese F., Carrubbo L., Service Dominant Logic and Its Application on Tourism Phenomena, Impresa Ambiente e Management, Vol. 2, No.1, 2008, 5-36.

Polese F., Russo G., Carrubbo L., The Contribute of Viable System Approach in Directing and Managing Inter-Firm Relationships, in Vrontis, D., Weber, Y, Kaufmann, R., Tarba, S. (eds), Managerial and Entrepreneurial Developments in the Mediterranean Area, EuroMed Press: Cipro, 2009.

Quintas P., Wield D., Massey D., Academic-industry links and innovation: questioning the science park model, Technovation, vol. 12, n. 3, 1992.

Richardson G.B., The organization of industry, The Economic Journal, vol.82, 1972.

Samarra A., Biggiero L., Identity and identificationin in industrial districts, in *Journal of management and governance*, vol. 5, n.1, 2001.

Saviano M., SDL, VSA and SS: highlighting convergence, Cooper-Link Conference, International Inter-University Research Cooperation Project "The emerging perspective of Service Science for management and marketing studies", June, 2010.

Spohrer J., Service Science: Progress and Directions, AMA SERVSIG, Porto Portugal at FEUP Engineering School, June, 2010.

Spohrer J., Maglio P.P., Bailey J., Gruhl D., Steps toward a science of service systems, IEEE Computer, Vol. 40 No. 1, 2007, 71-77.

Spohrer J., Maglio P., The Emergence of Service Science: Toward Systematic Service Innovations to Accelerate Co-Creation of Value,‖ *Production and Operations Management*, Vol. 17, No. 3, 2008, 238-246.

Stabell C.B., Fjeldstad O.D., Configuring Value for Competitive Advantage: On Chains, Shops, and Networks, *Strategic Management Journal*, vol.19, n.5, 1998, 413–437.

Tether B.S., The sources and aims of innovation in services: Variety between and within sectors, Economics of Innovation and New Technology, Taylor and Francis Journals, vol. 12, n. 6, 2003, 481-505.

Tether B.S., Metcalfe J.S., Services and Systems of Innovation, paper at DRUID 2002, 2001.

Vargo S. L., Lusch R. F., Evolving to a new dominant logic for marketing, Journal of Marketing, n. 68, January, 2004a, 1–17.

Vargo S. L., Lusch R.F., The four services marketing myths: Remnants from a manufacturing model, Journal of Service Research, may, 2004b, 324–335.

Vargo S. L., Lusch R.F., A service logic for service science, Service Science, Management and Engineering Education for the 21st Century, 2008a, 83-88.

Vargo S. L., Lusch R.F., It's all B2B. . .and beyond: toward a systems perspective of the market, Industrial Marketing Management, Vol. 40 No. 2, 2011, 181-187.

Vargo S. L., Maglio P.P., Akaka M.A., On value and value co-creation: A service systems and service logic perspective, European Management Journal, n. 26, 2008,145-152.

Vargo, S.L., Lusch, R.F. and Polese, F. (2012), "Toward a service (eco)systems perspective on value creation", International Journal of Service Science, Management, Engineering and Technology (forthcoming).

Vicari S., Cillo P., Verona G., Capacità creativa e innovazione, Sinergie, n. 67, 2005.

Von Bertalanffy L., General System Theory, in F.E., Emery (eds), General System, Yearbook of the Society for the Advancement of General System Theory, 1956.

Von Bertalanffy L., General system theory: Foundations, development, applications. New York: George Braziller, 1968.

Woodruff R. B., Customer value: The next source for competitive advantage, Journal of the Academy of Marketing Science, vol. 25, n. 2, 1997, 139-153.