Convergence of value propositions: developing new business models through networking

Abstract

In recent years, the competitive edge has changed in many businesses. In our paper we point out two main causes of this evolution: significant modifications, concerning the characteristics of demand and the way the critical resource “knowledge” can be shared among operators, force companies to adopt a proactive approach in order to redefine the business they operate in and to innovate their business models and organisational structures.

The increasing complexity of the scenario (often defined as “hypercompetition” and “blur economy”) offers new challenges and opportunities in markets that can be defined as “contiguous”, from competence and resource points of view, as well as in a customer based perspective. New hybrid sectors came to light and companies have opened facing unexpected competition from operators that were previously very distant. In this sense one of the constructs that better accomplish this perspective is convergence.

In this paper we want to focus on the relationship between processes of convergence among sectors and the recourse to networking. We argue that networking becomes the “enabling factor” for the redefinition of effective companies’ value propositions, when operating in complex contexts, generated by the customer’s determinants and competitive features.

In particular, we want to focus our analysis on this phenomenon, considering the Health Industry, in which we are witnessing a strong acceleration of convergence processes, regardless of the heterogeneous business areas it is composed of. We identify two relevant, but different, businesses within this macro-aggregate, the thermal sub-sector and the telemedicine-telehealth: they can show different paths that could be pursued by companies operating in this area. This enable us to better understand the convergence processes and the role of networking (and cooperative strategies) in an empirical perspective.

Keywords
Complexity, convergence, networking, wellness, thermal centres, telemedicine, telehealth

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In recent years, the competitive edge has changed in many businesses. In our paper we point out two main causes of this evolution: significant modifications, concerning the characteristics of demand and the way the critical resource “knowledge” can be shared among operators, force companies to adopt a proactive approach in order to redefine the business they operate in and to innovate their business models and organisational structures. The increasing complexity of the scenario (often defined as “hypercompetition” and “blur economy”) offers new challenges and opportunities in markets that can be defined as “contiguous”, from competence and resource points of view, as well as in a customer based perspective. New hybrid sectors came to light and companies have opened facing unexpected competition from operators that were previously very distant. In this sense one of the constructs that better accomplish this perspective is convergence. In this paper we want to focus on the relationship between processes of convergence among sectors and the recourse to networking. We argue that networking becomes the “enabling factor” for the redefinition of effective companies’ value propositions, when operating in complex contexts, generated by the customer’s determinants and competitive features. In particular, we want to focus our analysis on this phenomenon, considering the Health Industry, in which we are witnessing a strong acceleration of convergence processes, regardless of the heterogeneous business areas it is composed of. We identify two relevant, but different, businesses within this macro-aggregate, the thermal sub-sector and the telemedicine-telehealth: they can show different paths that could be pursued by companies operating in this area. This enable us to better understand the convergence processes and the role of networking (and cooperative strategies) in an empirical perspective.

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1. Introduction

In recent years we are observing an increasing complexity in the strategic scenario, where extensive changes are forcing companies to rethink their present performances, renovating their business structure in order to operate in new contexts where knowledge is playing the role of critical resource. Market globalisation, deregulation and liberalisation, the ICT diffusion, the evolution of consumption characteristics, are showing the limits of a traditional approach coming from the Fordist factory model: discontinuities, latent forces and emerging phenomena, redefining competitive scenarios, are often frustrating the attempts to apply the traditional system of cause and effect (D'Aveni, 1994; Hamel, Prahalad, 1996; Davis, Meyer, 1998). In many contexts, dominant business models are continuously reshaped by innovations, arising from the clash between the pre-existent and the new knowledge (Patel, Pavitt, 1997).

Companies are operating in different ways in order to find new paths leading to success in the marketplace. More and more, between the various alternatives, organisations are shifting their focus from functional features of the products to the underlying capabilities allowing to create new value propositions: as a first result, the attempt to formulate complex solutions produces hybridization between the material and the immaterial production, between a goods-centered and a service-centered logic (Vargo, Lush, 2004; Gronroos, 2006; Gummesson, 2007;).

The attention shift from the material product and service to the sharing of knowledge, typical of the post-modern era, transforms consumption into an immaterial process where the transmission of symbolic meanings exercises a determinant role in respect to the product/service itself (Holbrook 2000; Pine and Gilmore 1999; Schmitt 1999): the value of the exchange in the chain comes to depend on the experience that the process of acquisition and consumption helps to accomplish (Holbrook, Addis, 2001).

In this context, the relationship between the complexity of the environment and the innovation process is highly articulate and can be summed up in six dimensions that concern on one hand the impact on the market and on the other hand the impact on the organizational aspects (Sundbo et al. 2006). The first three are closely related to market factors such as the offer packetation as a bundle of products, services and experiences, the individualization of the supply system, the extra values (such as environmental protection, ethics, exceptional experiences and so on).

On the organizational side, we could consider the external networking-cooperation with many actors, the involvement and engagement of employees, the renewed importance of efficiency and productivity.

Starting from these assumptions, in our paper we focus our attention on both sides of the phenomenon, adopting a perspective in which the definition of a new value proposition, that would be able to face the growing complexity of the environment, needs to consider not only the different implication of each area but also the interconnections between the two areas.

2. Complexity of demand and the need for convergence

The necessity to satisfy clusters of complex needs (Valdani, Ancarani, Castaldo, 2001), that arises from this panorama, requires continuous updated knowledge and capacity to innovate the management of the offer’s details, i.e. that which makes the offer interesting and rewarding to the customer.

In this framework, convergence (Collins, Bane, Bradley, 1997; Prahalad, Hamel 1994) can help us to understand the new reconfigurations of business models driven by changes in the demand. After the first study phase about the subject of convergence concentrated primarily on causes generating convergence of the technological sort (‘digital convergence’; Yoffie 1997) and the competitive sort (Hamel, Prahalad 1996; Wirtz 2001), some more recent contributions have instead underlined the role played by demand in the creation of these kinds of phenomena (Wind, Mahajan 2002): in order to respond to an increasing demand for complex value propositions which cross the traditional boundaries of distinct sectors, companies are encouraged to offer bundles of benefits, combining tangible with intangible resources, giving life to new transectoral ventures, such as edutainment and nutriceutical (Ancarani, Costabile 2005).

Homogeneities which may reside in the technologies used or in companies’ behaviours cannot really point out whether and how two products are really interchangeable and subsequently belong to converging markets. Instead, it’s the homogeneity of the satisfied needs, or rather the capacity to satisfy “complex needs clusters” that constitutes a significant convergence indicator. The phenomenon of convergence spoils the relevance of conventional concepts, such as sector and market, and replaces them with the wider perspective of the meta-market. Convergence describes a process through which sectors and market, that were previously separated, which are now part to be part of a single meta-market, characterised by less well-defined borders and a dynamical process constantly reconfiguring itself. In this case the companies tend to converge through a process which brings them to progressively enlarge the product, attempting to consider it in a complex dimension of a bundle of benefits, which integrates products and complementary services and enhances the relationship with the customer.
In this context it is the new “hybrid” business models that best manage to profit from the different elements (functional and experiential) in a single winning formula and in an integrated solution (Wind, Mahajan 2002).

3. Networking as a means to face complexity

Fast changes require a large and dynamic portfolio of resources and competences. As theorized since the 90’s, it can’t be dominated by a single company, relying only on its own stable competences: the organisation, able to manage the thousand facets of this new scenario, is understanding the fundamental role played by the constant process of attraction, renovation and recombination of internal and external resources, in particular knowledge (Teece, Pisano, Shuen, 1997; Nonaka, 1994).

In this perspective, cooperative efforts have become a key factor for creating a sustainable advantage, based on the constant rejuvenation of complex value propositions. In order to satisfy articulated customer needs, companies share information, knowledge and technology, and other critical resources for new solutions, developing relationships with actors that are characterized by different core activities.

A crucial factor, connected with this process, is that every relationship between two organisations depends also on what happens in the wider network of relationships in which they are not directly involved (Hakansson, Ford, 2002): in this way, companies move from dyadic relationships to network relationships, adding more complexity to their horizon of interactions, and also attracts new opportunities to build value propositions, coming from linkages never even imagined before, among different suppliers’ value systems. The relationship can’t be considered as a single entity but it is necessary to consider it as a part of a “whole” (Hakansson, Snehota, 1995, p.3). The relationship is embedded in, and its development is affected by, other relationships. The network is generated by a process through which activities are repeated through company interaction over time (Capaldo 2004).

When analysing relationships, the primary function consists in the effects of interaction in a focal dyadic relationship of the two partner companies. The secondary function (network function) captures the indirect effects of a relationship; it is directly or indirectly connected to other relationships. The primary function of the relationships is referred to interlinking activities, creative leveraging of resources and mutuality based of the self interest of the actors (Anderson, Hakansson, Johnson, 1994:3).

Secondary, or network functions, are generated by connections between relationships and concern chains of activities involving more than two firms, constellations of resources controlled and network perceptions shared by more than two firms. Relationships are dyads but the existence of the secondary functions means that they are also part of networks (Anderson, Hakansson, Johnson, 1994:3).

The development is a first step toward network extension or consolidation (Cook, 1982). Companies become a bundle of commitments to technology, human resources, and processes based on knowledge. The coordination of this bundle by entrepreneurs and managers allows organisations to be heterogeneous and differentiated (Alvarez, Busenitz, 2001). Socially complex resources, in fact, may be difficult to imitate as they are hard to be managed and influenced systematically (Barney, 1995).

The key role of networking is also underlined in a recent research. The SENC Model (Rullani et al, 2006) points out four main guiding principles around which companies organise their new business model: “complexity”, interpreted as flexibility and readiness to include customers'/partners' needs in supply value proposition; “expressiveness”, connected with the capability to generate original sense-making for customers; “socialisation”, related to the creation/promotion of common values and identities among customers. Lastly, “networking” represents the intervention of formal or informal networks, according to the company’s strategy, in order to support the offering system coming from the exploration of the other three factors. Through networking, different companies work together in a process to adjust/compare and to consolidate/create activity. Companies can support the network but can’t control it (Ford et al., 2003, p.27).

In a first approach (external one) the relationship become an important asset, through which company can develop its resource potentialities and can access to resource of other actors. (Ford, Hakansson, Johnson, 2001).

In a second approach (internal one) the networking allows companies to operate in an active flexibility logic and to provide innovative responses to complex and articulated needs. Relationships allow knowledge sharing, which is the crucial asset (Rullani, 2003; Lipparini, 2002)

In order to reach a competitive advantage, the process of resource sharing is ever more based on relationships that company develop with actors, characterized by different core activities. The bundling and combination of different resources and competences allows companies to realize differentiated solutions. In this perspective, the process of convergence takes place.

4. Objectives and methodology
The relationship between complexity and the need to define new value propositions and new business models has to be explored both on the demand side and on the organizational side.

The key issue, however, is represented by the strong linkage between these aspects and particularly, in our perspective, between processes of convergence among sectors and the recourse to networking.

The new convergent business models, in fact, could be based on networking through which companies develop activities that are embedded in their interactions. These actors can belong to different sectors and, in this way, they have no borders, not in a geographical meaning, nor in a sector's perspective. The convergence process is characterised by crossing border dynamics moving to co-evolution dynamics. In the first one (crossing border) we can consider different sectors in a convergent area. In the second one (co-evolution) we can consider the interaction between different “species” and the interaction of their evolutionary trajectory.

On the other side, networking becomes the “enabling factor” for the redefinition of effective companies’ value propositions, when operating in complex contexts generated by both customer’s determinants and competitive features. In most cases, the company can’t develop on its own a complex value proposition, because of the scarceness of competences, that are not heterogeneous enough to face the continuous changing of contexts and needs.

The variety of actors involved in the complex value proposition and organised in network could lead, as so often happens, to a convergent way of redefining the competitive edge.

As a result of our approach, we can formulate some general hypothesis about the growing complexity that is determining the birth of new value propositions:

**H1**: The impacts of complexity on the demand side and on the organizational side, normally analysed as separated effects, are different but strictly connected.

Furthermore, the convergence processes are one of the main results of the research for complex value propositions. So we can hypothesize:

**H2**: The convergence processes generated on the demand side, representing the answer to the increasingly complex costumer needs, are made possible by the use of networking between heterogeneous actors.

**H3**: Networking, as a means to support the sharing of knowledge, underlying the reconfiguration of value propositions (on the organizational side), is determining the emergence of convergence processes between traditional sectors.

In order to verify our hypotheses, we identified two relevant, but different, convergent business areas both belonging to the macro aggregate of the Health Industry: they can show different paths that could be pursued by companies operating in this area. This could allows us to better understand the convergence processes and the role of networking in an empirical perspective.

Due to the new interpretation of the Health Industry that we develop in this paper and the different kind of actors we assume as being part of the convergence process in this sector, we will refer to this sector as the “Wellness Industry”.

Within the Wellness Industry, we consider the “Thermal Sector” and the “Telemedicine-Telehealth Sector”.

The first is the hybrid area of “Thermalism”, coming from the customer based convergence process between manufacturing and services operators, that were previously very distant, in a new sector where food and cosmetic industries, fitness equipments manufacturers and thermal sites, spa operators and fitness centres compete interpreting in different but complementary ways the needs of the customers. The second area is the Telemedicine-Telehealth one. According to Nora and Minc (1978), the convergence of Medicine, Computer Science, and Telecommunications, has created Health Telematics, that generate Telemedicine-Telehealth relationships. In this case new technologies support the development of “remote” relationships between a doctor (in a hospital) and a patient (at home), but also between different organizations (telehealth) belonging to healthcare context and technology areas.

The case of the thermal sector has been analyzed through a quantitative research extended to all the companies operating in Italy. The Thermal sector, as underlined in this paper, is at the earliest steps of a path of convergence. In this context, through the case of the thermal sector, we were interested in underlining how much the convergence process is supported by the expansion of networks among operators, that were previously very distant from each other.

On the other side, the Telemedicine-Telehealth area has been characterized over the last decade by relevant initiatives that have utilized a networking approach in order to define new value propositions. In this context we preferred to adopt the ARA Model (Actors Resources Activities) (Hakansson, 1987) to go more in depth in our hypothesis on the linkage between convergence and networking, also recognizing the nature of networks in terms of activities, actors and resources and their connections in this process. ARA Model helps us to better understand what happens in a network and which are the virtuous mechanisms that, in the perspective of this paper, enable the convergence processes. ARA Model suggests that what happens in a network depends on the behaviour of actors who bring their intentions and interpretations upon which they act. In this sense, the actor’s capability to interact is influenced by bonds. Companies and individuals, as actors in business networks, are bounded in their perceptions, knowledge and capabilities. In order to perform certain activities there is need of resource combination that can only be accomplished if several individuals join or are persuaded
to join a network. Actors’ bonds can be useful in company development, as they can be utilized to learn and to develop a company’s capabilities and to mobilize external resources (Hakansson, Snehota 1995 p 204). In this sense, perceived bonds affect opportunities to develop new bonds and open the way to learn and to develop: bonds help companies to overcome their limits, while orientating resources and activities towards specific objects.

5. The birth of Wellness hybrid sector: the enabling role of networking

The phenomenon of convergence, as said, transforms the conventional concepts of sector and market, and replaces them with the wider perspective of the meta-market. Convergence describes a process through which sectors and markets previously separated now find themselves to be part of a single meta-market, characterized by less well-defined borders and a dynamical process constantly reconfiguring itself.

The way through which we’re analyzing convergence applied to the wellness sector is based on the logic that shift the company focus from the traditional competences owned to the “complex” product desired and asked by the customer. Companies tend to converge through a process which brings them to progressively enlarge the product, attempting to consider it in a complex dimension of bundle of benefits, which integrates products and complementary services and enhances the relationship with the customer.

In this way we refer not only to the scenarios which interest competitive dynamics and the internal organization of the company, but also to the evolution of consumer demands. Customers are also changing their desires and expectations, requesting more variety and personalization from what is offered than they used to in the past.

The attention shift from the material product and service to the sharing of knowledge, typical of the post-modern era, transforms consumption into an immaterial process where the transmission of symbolic meanings exercises a determinant role in respect to the product/service itself (Holbrook 2000; Pine and Gilmore 1999; Schmitt 1999): the value of the exchange in the chain comes to depend on the experience that the process of acquisition and consumption helps to accomplish (Holbrook, Addis, 2001). In this context it is the new “hybrid” business models which best manage to profit from the different elements (functional and experiential) in a single winning formula, in an integrated solution (Wind, Mahajan 2002).

Wellness represents one of the most interesting emerging business areas where we can verify some of the hypothesis about convergence and networking explained above. In this work, we interpret Wellness Industry as the answer offered by the supply side to the complex and heterogeneous need of “wellbeing”, expressed by the demand.

As is evident from the same transversality of the concept of wellbeing, from which this meta-market is originated, the competitive landscape becomes very wide: this is because, in a modern economical perspective, wellbeing has always been considered in terms of wealth, that of course represent in the customer perspective only a narrow way to interpret the wellbeing. To grasp the real sense of the demand for wellbeing, we have to shift to a wider extent that can be summarized with the logic of “feeling well”. “Feeling well” contains in itself many complex meanings, that in a first approximation we can localize between the scope of health and the realisation of expectations of the individual in his free time: an extremely heterogeneous social demand of wellbeing that refers to either public systems and private operators. The central and non-univocal definition of the boundaries of this bundle is coherent with the idea of the converging meta-market. In any case it’s already from now noteworthy that the use of these goods, services and contexts linked to wellbeing don’t end in the simple spectrum of activities connected to leisure or traditional health, and that the impact of their diffusion and the extreme transversality of these “wellness worlds”, are such that wellness is constantly present in our daily life. In the “health sector”, the importance of a dynamic approach constantly putting the accent on the interaction of biological, psychological and social factors, gets therefore underlined, against the limit recognised to the concept of illness considered as a consequence of a specific physical cause (Ferrari, 2001). The revaluation of the subjective perception of the health situation moves to focus the attention also on the concept of quality of life. QoL is defined by World Health Organization (WHO) (1995) as “the subjective perception that an individual has of his own life position in a cultural context and in a whole of values in which he lives, even in relation to his goals, expectations, anxieties.

The consumption model linked to health and wellbeing services and goods has become much more complex: the search for psychological wellbeing and the perfect physical form by a growing number of the population is an expression of a new vision of health, intended not as a prevention or cure of disease, (related to the Health system in strict sense), but as the development of the individual’s potential and the achievement of inner peace, which better combines with the concept of “an integrated self cure”.

We must necessarily extend our horizons to include all those who nowadays offer a possibility of “proactive wellbeing” to the consumer, involving sport, food, the ethical-moral existence within the social and environmental framework. Wellness, so defined, is reflected in the values of a wider pursuit of happiness and quality of life, and in a context of radical redefinition of consumer behaviour in the sense of innovative and personal exploitation of free time: practises reconstructed around a transversality of locations dedicated to taking care of oneself, of society and recreation. In this sense, the different traditional sectors which offer “wellness products” need therefore to be seen as parts of a single
industry and market, which can now be identified only starting from the characteristics of the demand and no longer of supply: the definition according to traditional points of view based on intersectoral homogeneity of the supply does not really manage to grasp the true dimensions of this sector, where demand and the customer lead specific aggregations of products and services.

Starting from the perspective of the customer, as a first attempt to define the wellness competitive field, we have therefore tried to identify the different sectors traditionally present in wellness, on the basis of homogeneity of needs to which they respond, rather than on homogeneity of companies’ competences, as shown in figure 1.

We identified three primary areas in which the complex demand of wellness is met:

- **Rediscover care for the body**: wellness means, primarily, being in good health and caring for one’s own physical state. The sanitary sector and its various departments deals with this area. The companies’ focus inside this area was traditionally connected with the moment of sickness: new theories which also run through hospitals encourage the idea that good physical health aid and improve recovery. The health system must therefore increase its scope, offering an integrated service, during, but also before and after the period of illness. Curing illnesses becomes even in the social sense of “cure the body and mind” at the same time, filling the gap between the traditional welfare services and a comprehensive programme which integrate the hospitalisation with other products and services. We can therefore see in the health market a continuous cycle of cure and prevention, integrating other cures such as homeopathy and acupuncture, but also the choice of food (i.e. “natural selection”) and cosmetic and aesthetic activities, no longer focused solely on beauty but on treatment directed towards physical recovery.

- **Free time enjoyment**: Wellbeing also means satisfying the needs of appreciation of the individual in his social life and cultural and leisure activities. In this field we find entertainment, media and cultural association companies which no longer imply merely recreation, but activities to satisfy the need to live well “caring for our mind and spirit”. Sports, holidays and relaxing activities in general are becoming a moment for regeneration balanced between mind and body together.

- **Contextualise the wellness experience (the enablers)**: many operators, often far from the two areas mentioned previously (free time and health), have contributed to the completion of the perception of good living: in every product and service the consumer wants to see his vision of wellness. In this way operators, typically in the field of furnishing and of clothing and of public and private space, start to contribute in a way which is essential to the complete experience of well being, precipitated by the consumer

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Each of the original sectors and the companies included in them, have in their own way defined the widest concept of wellness, sometimes maintaining the original business or creating new and original ones so as to respond with maximum effectiveness to the new model of consumption.
In this sense, it’s emerging as one of the most crucial aspects for companies, the ability to enlarge their values propositions trying to create a complex response to customers. We’re able to identify some sub-sectors within the wider wellness world which existed before this new aggregate appeared on the scenario and that had their own distinctive identities. While the complexity of the social and economic scenario started to grow, many of these sub-sectors started to show signs of a deep crisis that was related to the interpretation of the dynamics of demand and supply that were no longer up-to-date or, in any case, inadequate. Internal competences of companies belonging to wellness meta-market are in many cases still very focused on their traditional business: this is partially because of the fragmentation of many of the traditional sectors included in wellness and because of the companies’ small dimensions on average too.

It’s clear how managing this new complex customer can be dominated only referring to the competences developed inside the same sector or company: companies need to face this challenge, accelerating mechanisms of integration among operators traditionally very far from each other. It’s a global transformation that is affecting all the wellness areas identified above.

Among these, two main areas are object of a specific focus in our paper. The first is the thermal sector, the latter is the telehealth-telemedicine area. Both come from a redefinition of value propositions of operators traditionally included in the vast world of the “cure of the body-health”, as previously defined. However, the path to enlarge their original positioning in the market, following processes of convergence, has brought them to identify possible fields of collaborations in two different areas of the Wellness Industry: as presented further on, on one side the thermal operators seem to find new possibilities to enhance their value propositions through networking with other operators coming from “the cure of the mind-free time area”; on the other side, telemedicine exploits strong linkages with partners traditionally included in “the enablers area” (see again figure 1).

Two different paths, both representing virtuous ways to take into account the convergence processes, resorting to the potentialities of networking.

6. The Thermal sector: some emerging evidences of the linkage between convergence and networking

The world of thermal centres constitutes a particularly interesting example, as it shows how the customer-based convergence logics have guided an evolutionary process that have as one of the main consequences the research for a higher level of networking among different kinds of operators. The thermal sector, which was once considered as being part of the broader health sector, is in fact progressively losing its main therapeutic connotation while its role in the wellness meta-market is growing. After the deep crisis in 90’s, when pure health-sanitary thermalism sharply decreased in favour of a concept more connected to tourism and leisure extents, thermal was one of the first wellness areas seen above, to understand the need to improve in the interpretations of costumers’ value research: a broader concept of thermalism is gaining field, that of the so-called thermal spa wellness, the expression of a holistic view of life and health, boosted by the evolution of a demand that, also in this context, undergoes and transfers dynamics that have been affirmed in other consumption areas. This new generation of thermal activities is characterized by an image shift, where thermal baths are being detached from the sanitary world through product innovation with a winning combination between ambience, thermal baths and wellness.

In order to understand more in detail the implications of this transformation process and to verify the relevance of networking in this process, we carried out a quantitative research on the thermal structures in Italy. The total population consists of 170 thermal sites that was contacted in the period between June-October 2007: 112 centres have given answers that were considered valid, almost equally distributed between SPA – without hospitality structure- (51.8%) and Resort SPA (48.2%). A first clear outcome of the data analysis shows the evolutionary path of the sites to the integration of traditional thermal treatments with new complementary services, from the common lymphatic drainage, tonifying and purifying massages (96.4%), thermal water pools for bathing and gymnastics (91.9%), to more innovative services such as Shiatsu and Ayurvedic massages (68.7%), reflexology (60.7%) and even aromatherapy (26.7%). This of course has implied a movement of aggregation of competences among a larger area, that we defined in our figure “the rediscovers of the body”: often shading the boundaries among the welfare services and new kinds of activities, also in terms of labour market, as shown by the new job profiles asked by the thermal sites.

The main evidences of the convergence process in thermal sub-sector and the development of networking among extremely heterogeneous businesses belonging to others wellness areas, comes from the analysis of other significant data gathered.
If we look at the demand related to the sampled centres, we can highlight the rise of a category that well represents the evolution of the phenomenon, i.e. the ‘curists’. These represent no less than 65% of the customers, and they combine the treatment with tourism in attractive places where they can spend their time-off on excursions or other leisure activities. The other group, i.e. normally patients going to a thermal centre to receive curative treatment, represents an ever more contracting percentage (29,4%). A residual group can be identified as well i.e. people, typically tourists (5,4%). The process of body-and-soul regeneration that’s being developed from the thermal supply, combine pleasant activities through contact with nature and cultural heritage.

From our analysis emerges that it’s not really relevant the main approach the thermal site uses to attract customers (underlying the offered treatments or firstly emphasizing the territory beauties), but the fact that the majority of the new kind of SPAs is pushing a process of integration with the territory and its operators. If we look at the extra-thermal activities, we see how important becomes the role of activities offered by other operators in the SPA’s network (figure 2). This show us how much this sub-sector is stably interlinked with other businesses belonging to the opposite area of wellness meta-market: the “cure of the mind – free time”.

Another important element about the increasing role of networking in the development of the new wellness thermalism is underlined by the interchange with the area of the “Enablers” too. The material context in which the thermal experience is offered, is an area on which the studied companies have concentrated their attention, as this is very relevant to customers. There are some elements such as the centre’s architecture, interiors, lighting, colours, that are considered particularly important in relation to thermal spas (Figure 5). Obviously they hold no implications as to the efficacy of the treatments, but they represent accessories aimed at an operative translation of the holistic approach to the cures of the body and the mind. As a fact, in centres where the traditional and curative dimension is privileged, the internal ambiance doesn’t acquire a fundamental importance and therefore the investments are essentially not made to this end.

The relevance to build a complex value proposition as an answer to a complex customers, forces the “all round wellness SPA”, to contextualize the thermal experience, accessing to competence (design, architecture...) previously very distant from the business. This compelled most of the new wellness SPA seen in our research to activate a solid network with expert interlocutors that become integral part of the final value proposition provided to customers

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1 We defined three levels of evolution in the thermal site, in connection with the balance they offer between complementary treatments and more traditional ones. “All around wellness” SPAs are the ones developing multiservices, complementary to the thermal product (77,6% of the sample). “Therapeutic wellness” SPAs are the ones in which the therapeutic side of the treatments still prevails (17%). “Pure thermalism” SPAs represent the more traditional segment (5,4%)
7. Telemedicine and telehealth: from networking to convergence

The increasing attention to health is also recognized by the evolution of the healthcare interpretation, connected with the critical role of ICT evolution and of new organizational strategy. In the health sector, the concept of health, as equilibrium between physical and psychical wellbeing, swept in last years. As mentioned above, it relates to a broader spectrum of concepts, that also includes social relationships and interactions with personal specific environmental context (Niero, 2001: 33).

At the same time, the introduction of ICT in health context allowed the transformation of services in tele-services, also considering the chance of remote accesses. The health context, that is based on a network structure made of interconnections among and between different actors (characterized by different core activities), turns in a telenetwork, thanks to the new technologies support.

The Italian NHS (National Health System) is based on a net model. The local health assistance (LHA) manages the healthcare on the territory through structures like districts, laboratories, semi-residential structure. The degree of complexity is determined by the dimension of the served territory, by the presence of directly managed hospitals and by the presence on the territory of autonomous hospital structures: in fact, in each Italian region, LHA hospitals are also flanked by IRCCS, private but state equalized structures (aid qualified institutes, research institutes) and accredited private clinics (Borgonovi, Camussone, Occhini, 2004: 16), while the emergency and live aid performances remain a peculiarity of the public health hospital service.

Healthcare staff has a main role in the NHS. The staff includes General Medicine Doctors (GMD), Free Willing Paediatricians who, though not being dependent by the HNS, represent a strategic resource for health institutes.

This network structure requires specific IT supplies, to grant integration and coordination with the surrounding territory. In this context, the telemedicine network concerns relationships between doctor and patient, or his/her caregiver, mediated by new technologies. It also affects the relationship between organizations and patients, in order to satisfy, through ICT, their health needs: for instance, a doctor carries out a remote control of patients through the transmission, by the Net, of biological data (telepressure, telecardiology, teledyalisis...); meanwhile a patient interacts with general doctors, specialist ones, health organization personnel. Moreover, patients interact with providers of biomedical tools and social associations that support the satisfaction of health needs, using new technologies.

Telehealth, otherwise, concerns relationships among organizations in order to improve their processes. For instance, an hospital, through e-procurement, can optimize the relationship with ICT providers or biomedical support providers. A general centre can create a digital health portal with social associations in order to increase the offer of health services. New technologies can also support the relationship between an health organization and its personnel, supplying professional training courses via eLearning, or improving organizational processes such as internal communication, logistics and so on. Telemedicine applications can be synthesized in:

- teleradiology: the electronic transmission of radiological images from one location to another in order to interpret and have consulted;
- teleradiotherapy: the creation of image archives used for research and education causes. A system transmits images over a distance, using leased or switched transmission lines (i.e. PACS and RIS);
- telediagnosis: a system supporting the data survey with a pen pad and a computer;
- teledialysis: a remote centre monitoring parameters improves the control of a dialysis session;
- teleanalysis: a telematic system supporting analysis of biological drawings realized in peripheral sites;
- telediagnosis, teleconsult: systems allowing distance imaging and heart-blood parameters transmission to support second opinions. Patients can access to specialists' knowledge;
- telenursing, teleassistance, telesurveillance: interventions helping patients to receive assistance at home or in decentralized structured;
- telerescue: instruments allowing aid calls in emergency conditions, through portable transmitters that supports continuous communication to users;
- telerehabilitation: rehabilitation services over telecommunication networks and Internet. Fields of rehabilitation practice are neuropsychology, speech-language pathology, audiody, occupational therapy, and physical therapy.

Focusing on the rehabilitation area, the introduction of new technologies has social, clinical and managerial implications. The incidence of vascular, traumatic, infective and degenerative events and the increase of the survival justify the positive trend of the number of people with disability in all age groups. In Italy the estimation of disabled people is more than 250.000 units, with a growth of about 50.000 units per year (+20%). If we consider the number of caregivers in rehabilitations, about 1.000.000 people are already involved in the system. This number rises systematically and exponentially every year (Politecnico, 2006).

A person’s functioning and disability is conceived as a dynamic interaction between health conditions (diseases, disorders, injuries, traumas, etc.) and contextual factors, including personal and environmental ones. As a consequence, a relevant number of entities and different know-how are continuously involved in a complex but well-integrated
rehabilitative network. Thus, in this context it is necessary to provide well organized, coordinated, multidisciplinary rehabilitation services, coming from new managerial approaches that consider different organizational contexts, different goals and complex structures. In the rehabilitation area, as we can see in the case study in box 1, developed through the ARA model, telemedicine supports the effectiveness of treatment controls and the development of diagnostic and technical parameters in order to satisfy patient's needs. Besides, tele- and home-assistance services are continuously increasing their importance, considering the central role of safety (first aid action) and security. These services development can’t disregard networking in with different specialized actors.

Box 1: The rehabilitation project of Villa Beretta: teleconsult and temonitoring

The “Second Opinion” service of Villa Beretta (Valduce Hospital) supports the sharing of medical reports and specialist opinions. Through this system, doctors can share the imaging and information. TeleConsult service supports the development of relationships between Villa Beretta and Hospital in Il Cairo, Moss Rehabilitation Hospital (Usa), Hospital in Catania (Italy) and a social health organisation in Mortara (Italy). Due to this collaboration, in Egypt patients are visited by doctors who can continuously consult colleagues in Italy. Technology supports the learning (e-learning) and the creation of rehabilitation centres across national and international borders.

In addition to this, telemonitoring project of Villa Beretta provides patients’ control in their home. The project involves the cooperation within eWorks, Rizzoli Institute, Cariplo Foundation, CNR, UILDM Como, Valduce Hospital and other organizations (Figure 3).

Actors

The development of the teleconsult project included different kinds of actors and required the sharing of different resources in order to create an innovative solution. The development of project engaged several actors:
- Villa Beretta (Costamasnaga). The centre "Villa Beretta" is a detached ward of Valduce Hospital (Italy). The centre is specialized in rehabilitation services;
- Valduce (Como) Hospital. The hospital, located in Como, offers confinement ward and outpatient services. The hospital guarantees high-quality, medical care and rehabilitation for individuals with physical disabilities. The hospital treats many types of physical disorders, with special programs for traumatic brain injuries, spinal cord injuries, strokes, neuromuscular diseases;
- Valduce Foundation. The foundation supports the research from an economical point of view and also grants researches;
- UILDM Como. Unione Italiana Lotta alla Distrofia Muscolare was founded in '60 in order to foster scientific researches, health information and social integration;
- Cariplo Foundation. Its main aim is to support, in a no-profit perspective, the fulfilment of public interests in different sectors, from art to culture, from education to scientific research;
- TMR- Rizzoli Institute supports the development of different applications, from Telemedicine to tele-didactics in order to ensure scientific and health knowledge of the Ortopedici Rizzoli Institute and of other specialized centres of excellence;
- CNR. National Research Centre, is a public institution that supports the diffusion and sharing of knowledge in scientific, economic and social development;
- Eworks is specialized in the development of software for real time videocommunication. The firm develops worldwide videocommunication using a technological platform.

Activity

- Valduce Villa Beretta Rehabilitation Center’s activity focuses on diagnosis and treatments of cognition (understanding how movements, such as walking, are planned and carried out in healthy people and determining how to restore useful movement to people with paralysis, amputation and spasticity) and their outcomes (measuring how well people with disabilities perform after completing the rehabilitation process and determining the effectiveness of treatments delivered);
- Valduce Foundation realizes monitoring activity, publishing results and costs
- UILDM (Unione Italiana Lotta alla Distrofia Muscolare) supports scientific research and health information on muscular dystrophy, and promotes social integration of patients with special needs. Other activities are referred to rights, information and services;
- Fondazione Cariplo: in accordance with its ultimate objectives, the Foundation serves the common wellbeing through the promotion of philanthropy in the following four main areas: environment, arts and culture, scientific research and technology transfer, social services. Therefore, Fondazione Cariplo focuses its efforts on the living conditions improvements in its local community.
- CNR: National Research Council (CNR) is a public organization; its duty is to carry out, promote, spread, transfer and improve research activities in the main sectors of knowledge growth and of its applications for the scientific, technological, economic and social development of the Country.
- TMR- Rizzoli Orthopaedic Institute is the main Italian institute of orthopedics and traumatology. The institute's strength lies in the close integration between healthcare and scientific research, which is developed in nine laboratories employing a staff of 250 doctors, biologists and technicians. Furthermore, it is a teaching place at university level, due to its association with Bologna University. Tele-consultation through videoconferences, allows a true visit between a specialised healthcare professional of a Point of Excellence (i.e. Istituti Ortopedici Rizzoli, IOR) and a patient, even if the two are not physically in the same place. Tele-rehabilitation offers to all patients the possibility to receive home therapy and indications for the post-traumatic rehabilitation. Beginning from the American
experience of the Shepherd Center in Atlanta (Georgia), which firstly experimented a service of tele-rehabilitation for patients with spinal cord lesions. Thanks to the collaboration with the Istituto di Riabilitazione of Montecatone (Imola), a highly specialized centre for spinal cord lesions, a series of procedures and activities were organized, in order to guarantee an improved assistance for those patients discharged from the institute. TMR produces e-Learning initiatives dedicated to healthcare operators too.

- Eworks: the activity is focused on internet real time video communication software development. Today EWorks collaborates with Italian main companies for the development and integration of real time video communication software platform in the following areas: business videoconference and collaboration over IP; mobile phone and POTS video applications; e-learning and reach multimedia content creation and distribution tools; applications and systems for telemedicine (medical teleconsult and home care).

**Resources: Relationships**
The Villa Beretta Centre is a ward in which there are located analysis laboratories that use devices such as the electrode and camcorder. Doctors carry out analyses that investigate both the clinic area and functional area. This supports rehabilitative procedures and the choice of therapies. In addition to this, aneuropsicology laboratory is available too.

The Electrodiagnostic Center of Valduce Hospital combines the latest advances in clinical neurophysiology with computer technology to measure a patient’s brain activity and to assess peripheral nerve and muscle function.

In the web project the technology is easy to use and advantageous; it can grant a professional service to aid the patient. The patient through software can access to services, and use the technology that requires limited cost. In this area it is possible to find microphone, web cam, tv, modem (ISDN-ADSL). Through the direct contact, the operators can control the patient status in his/her home. The development of R&D is deployed in different areas of rehabilitation services, considering teleconsult among a team of doctors and telemonitoring of patients. The rehabilitative staff cooperates with the patient and caregiver to support deficit in memory, attention, motorial ability. In this context the organization offers guidelines in different area (individual care and hygiene, communication ability, use of devoices...).

Figure 3 - Network Teleconsult project

Villa Beretta Institute has developed with Egypt an international collaboration over the last years. The patients are visited and monitored by specialists that work on Egypt territory, but this exhibit is then transmitted to Italy’s specialists for a consult. Villa Beretta doctors also use technology for daily working with other colleagues all over the world: videoconferences with doctors localized in USA are normally taking places, and the linkages with colleagues from Catania Institute (in the south of Italy) are reinforced by the continuous interchange of knowledge and professional experience.

Through teleconsult Villa Beretta develop relationship with personnel of health organizations in a tele-health perspective. In telemonitoring project Villa Beretta uses a camcorder monitoring patient from a follow up point of view. In telemedicine project the actors involved are eWorks, Istituto Rizzoli, Fondazione Cariplo, UILDM Como, Ospedale Valduce.

Web conference is integrated by a mail or chat communication through an audio and visual support.
The institute uses a platform in order to deliver a service and therefore the patient supports only the cost of Internet use. The quality of service depends on video that allows doctors to realize monitoring.

Before this project, EWorks, specialized in web conferencing, carried out a project with Rizzoli Institute. From Shepherd Center, the first centre that implemented a telerehabilitation service for mielolesi patient, TMR realized a technology solution based on different needs. With the collaboration of Rehabilitation Center of Montecatone, there have been defined practices and activities that grant a better assistance to dismissed patients.

The development of project is articulated in different steps referred to regular meetings, time of state of art, study, and experimentation. Telemedicine can increase service quality, reduce cost, and reaching efficiency and effectiveness goals.

In future, Villa Beretta will increase the development of videoconference and the integration among patient data. Villa Beretta will consider the integration among social healthcare services in order to reply to the emerging patient needs.

A structure can answer with its resources or realize complex solutions through competences of other actors. In the perspective of doctor-patient relationship this interaction is very important to increase loyalty. About the complexity of telemonitoring systems, one of in-progress international research topics in biomedical technologies is about smart textiles, i.e. sensorized fabric for different applications, for example wearable computing and non-obtrusive telemonitoring. On this application the Politecnico di Milano has activated a research program that has already developed an important level of know-how both about Body Sensor Network – e.g. miniaturized electronic boards for distributed sensorized platforms and/or integrated in textile with wireless (or not) connection to a body gateway- and about smart textiles integrating conductive fibers structured as sensors network directly in the wearable garment, e.g. a common T-shirt. In the Health Innovation Network Technology project, a virtual Lab with Cnr, Irccs Medea, Politecnico di Milano and Valduce Hospital operate for a basket developed by Dipartimento di Bioingegneria (Politecnico di Milano) and Raggruppamento di riabilitazione funzionale (Istituto di Bosisio Parini).

In our research, we also consider a second case study (box 2) in which new technologies support the remote access to clinical information. As shown below, this project couldn’t succeed without the development of relationships among different kinds of actors.

**Box 2 - Niguarda OnLine**

Niguarda OnLine is a telesystem that enables patients to access through the web to their clinical report (laboratory examination, medical report and diagnostic images, demission letter). With a token, a tool that generates new passwords every time, the patient can access to information that are authentically registered. This solution considered permits to access, everywhere and every time, to clinical data. This means avoiding the physical movement to hospital and increasing the dialogue between doctor and patient: in fact also doctors can extrapolate clinical data in real time and support their patients in the embedded interpretation. In this way new technology can change or “reinforce” relationships between doctor and patient, but also among doctors, patients, and hospitals.

The project outlines that the solutions achievement depends on the commitment and resources of different partners.

**Actors**
The main actors involved in this project are:
- Niguarda Hospital: with reference to SIAPRI, the responsible for Hospital Information System;
- AstraZeneca: in the spirit of this pharmaceutical firm, healthcare could be fulfilled through cooperation with social and political institutions. This organisation supports innovative initiatives focused on quality life improvement. At AstraZeneca, innovation is about to stimulate continued creativity throughout organisation by maintaining a culture in which “people feel valued, energised and rewarded for their ideas and contribution to firm success”
Abstract preview

- iNet: through Internet Protocol and Business Factory network, the Application Infrastructure Provider (AIP) provides a safety technological environment. The Group grants operative continuity, considering net connectivity system and security infrastructure
- Sio Sistemi: it supports the informatics security and firm connectivity
- Trail Stat: service organisation, specialized on projects and services development for operator working in the clinical sector.

Activity
- Thanks to this project, Niguarda Hospital offers an innovative service concept and model of care, with the collaboration of technical and health care professionals.
- AstraZeneca has a broad products portfolio including many world leaders and a range of high potential medicines designed to meet the needs of patients and the healthcare professionals who treat them. It operates in pharmaceutical research.
- iNet: it assists its customers with professional staff that properly responds to requests and anticipates needs. Through the web, the customer can access technical-administrative services, find useful information and directly contact I.NET customer service.
- Sio Sistemi: it offers added value services, integrating hardware and software consultancy and assistance activities. It integrates heterogeneous systems.
- Trial Stat: TrialStat offers clinical data solutions on demand – a hosted, modular and Web-based platform that removes the complexity, management and much of the cost of administering EDC software.

Resources: Relationships
The architecture used is based on token, a device that generates dynamic passwords. The token is an instrument with the dimensions of a key case, that grants the high security in personal data access, generating a different reserved code every time. The strong authentication rules influence the accessibility to data and images, with the possibility to connect to hospital information system through Internet.

The quality of services is granted by different competences, expressed by doctors, clinical personnel, medical attendants and firms specialized in ICT activities and ICT security. The project concerns the realization of an integrated solution made up of products (token and technological infrastructure) and services (remote access). Considering technological aspects, Sio System offers authentication solutions through software and tool that grant ontime code and high level of security. Sio System verifies prerequisite and access to authorization. In this context iNet controls physical space in server farm and central infrastructure.

The first pilot phase involved 100 patients. It was carried out thanks to the sponsorship of Astra Zeneca. In the following steps of the project, Astra Zeneca has moved from sponsor position to a partner position, supporting the development of the project with economic resources, knowledge and experience. The partnership with AstraZeneca generates co-marketing activities too. From sponsor AstraZeneca became a co-maker. From short relation it passed to long period relationship that is based on reciprocal loyalty, consistently with the main aim of this project to increase healthcare quality and support health co-operation.

Niguarda On line Network

8. Conclusions and managerial implications

In this paper we analysed the convergence processes in two evolutionary areas of the health industry (defined in a broader sense as Wellness).

The cases selected well show the convergence dynamics: we underlined two different kinds of convergence paths. In the case of thermal sector, the demand side plays a key role in promoting this process that is subsequently enabled by networking. In the tele-health business, the convergence is firstly generated by a process of reorganization, through networking, of the different activities and competences involved in the definition of the innovative value proposition.
In this sense, we can observe that convergence and networking, as hypothesised, are strictly connected and the relationship between them is biunique. This represents an original point of view through which considering the possible ways to manage complexity.

In this perspective, our hypotheses seem to find a first confirmation. Obviously the next steps of our research will be focused on the extensions (both qualitative and quantitative) of our results in the same industry as well as in other convergent businesses.

Moreover, in both cases an important trigger of convergence is the sectoral heterogeneity of the different actors taking part in the networks. Heterogeneity has an important managerial implication for companies involved in these businesses: differently from the past, the value creation in a complex environment seems to be strictly connected to the ability to be interlinked with other actors belonging to different sectors (as traditionally interpreted), able to push the innovation through the integration of different competences.

In the cases analysed we see organisations belonging to different areas and specialised in different core activities, develop a cooperative strategy in order to manage complex environment and to satisfy the complex bundle of customers’ needs: relationships become the bases to share information, knowledge and technology, which are considered crucial resources. This also implies the involvement and collaboration between organisations and their reciprocal influences, as the most important mean to increase effectiveness and efficiency in results, but also to reach a sustainable competitive position.

References


Davis S and Meyer C.(1998), Blur. The speed of change in the connected economy, Addison Wesley, Boston


Lipparini A (2002), La gestione strategica del capitale intellettuale e del capitale sociale, Il Mulino, Bologna, 2002

Nievo M. (2001), Qualità della vita e della salute, Franco Angeli, Milano


Nora, Simon and Minc A. (1978), L’Informatisation de la Société, La documentation francaise, Paris


Schmitt, Bernd H. (1999), Experiential Marketing. How to get customers to SENSE; FEEL; THINK; ACT and RELATE to your company brands, The Free Press, New York


Valdani Enrico and Ancarani F., Castaldo S. (2001), Convergenza. Nuove traiettorie per la competizione, Egea, Milano


