



Rethinking service innovation: four pathways to evolution

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service
innovation

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Abstract

Purpose – Service-dominant (S-D) logic and service science provide a conceptual framework to describe evolutionary pathways that companies could follow by innovating in order to overcome and rethink traditional and non-productive ways of managing their businesses. The purpose of this paper is to explore service innovation.

Design/methodology/approach – Through a critical review of literature about service innovation, highlighting a dynamic perspective and building on the latest contributions from S-D logic and service science, a research framework is designed. An in-depth analysis of empirical data from almost 100 companies is conducted.

Findings – Four evolutionary paths based on innovation pursued by companies to face the growing complexity of their competitive environment are identified. The paths are dematerialization of the offering system, virtualisation of the value systems, replication of the organizational models and multiplication of market niches.

Research limitations/implications – This is a starting point for better understanding, in a dynamic perspective, the role of innovation in supporting the redefinition of corporate business models and the conditions that enable their path development.

Originality/value – Four cases that show the characteristics of each path are presented. The cases allow the specificity of each path to be emphasized, especially in terms of antecedents and the role of the service science key resources people, technology, organizations and shared information.

Keywords Customer service management, Innovation, Transition management, Strategic management

Paper type Research paper

Introduction

Being scarcely understood, service innovation represents an interesting area of investigation (Maglio and Spohrer, 2008). According to Sundbo (2006, p. 1) “both society and the market have changed and with them the art of innovation management has changed” meaning that “the factors (innovation research, basic research in natural sciences and classic entrepreneurship) that classically have been thought to ensure innovation, firm development and economic growth are too limited for the present situation”.

Innovation success is often due to non-technological intervention on the offering system and high-tech solutions cannot guarantee superior functional performance (Normann, 2001; Carr, 2003). Therefore, innovation must be viewed in a broader technological context where social dimensions are also considered (Edvardsson *et al.*, 2000; Gustafsson and Johnson, 2003).



The aim of this paper is to contribute to service innovation research with special attention to non-technological dimensions. We believe that this area – the “soft side” of service innovation – is largely neglected despite its enormous importance.

The term “soft” is used to stress innovation that is specifically related to people and organization, markets and relationships, knowledge and integration and meanings and experiences. These are established and emerging dimensions that our research indicates as crucial in building sustainable competitive advantage. Soft innovation can be interpreted as complementary to technological innovation and often builds on specific bundles of resources (as we will see below) and non-imitable interrelated assets that can act as defendable factors of success.

The paper presents the results of a study of the dynamic side of soft innovation. In particular, we want to contribute to the explanation of strategic aspects of service innovation, reporting the directions of innovation we have observed in selected service and manufacturing companies operating in Italy. The contribution proceeds as follows. The theoretical background explores recent literature on service innovation adopting the service-dominant (S-D) logic mindset and its philosophical foundations. Within this framework we also outline and build on the contributions to service innovation by the emerging service science discipline. In the second part, we report the results of ongoing empirical research in a multiple case study of almost 100 companies extracted from CFMT’s affiliates database[1]. The project allowed us to analyse innovation strategies in both mature and emerging industries. Through the use of different methods of investigation – semi-structured interviews, structured questionnaires, participant observation and documents – we collected information on strategic and operative choices along with a dataset specifically related to innovation and its drivers. We present managerial, practical implications of four emerging evolutionary pathways that can help companies focus their attention on the most strategic and up-to-date drivers of innovation. The paper ends with conclusions and further implications.

Theoretical background

As noted initially, non-technological service innovation is an emerging and challenging issue in innovation studies. Gallouj (2002, p. 2) points out that:

Those studies that equate innovation in services with technological innovation (adopted by services) are by far the oldest and most numerous, which have contributed to some extent to the overestimation of the technological dimension or, more precisely, the underestimation of other aspects of innovation.

This is a reason why some scholars – although recognising the importance of early streams of research – have pointed to the need for better understanding of innovation from a service perspective (Blois, 1984; Tether, 2005). We envisage a service innovation research stream where a main feature is the consideration of the incompletely explored soft side of service innovation and its importance as a driver of sustainable competitive advantage.

We omit plenty of details regarding the evolution of service innovation theory; for a comprehensive outlook see Droege *et al.* (2009). Instead we underline the recent efforts searching for a synthesis between traditional and emerging approaches in service innovation. In one of the latest approaches – the “integrative” view (Gadrey and Gallouj, 1998; Gallouj, 2002) – technology is integrated with other aspects of

innovation. The integrative approach represents a synthesis of prior approaches (Coombs and Miles, 2000) attempting at overcoming the traditional dichotomy between manufacturing and services (Sundbo and Gallouj, 2000). As a result, innovation cannot be restricted to the adoption of new technologies but has to be conceived as a creative use of technology in order to interpret the market or integrate the knowledge of the supply chains (Tether and Metcalfe, 2003).

In addition, several recent theoretical and multidisciplinary developments have contributed to new perspectives on service innovation, emphasizing culture and organization (Normann, 2001; Kandampully, 2002; de Jong and Vermeulen, 2003; de Vries, 2006); experiential dimensions (Pine and Gilmore, 1999; Schmitt, 1999); customer knowledge integration in the value creation processes (Preissl, 2000; Prahalad and Ramaswamy, 2004; Zeithaml *et al.*, 2006; Edvardsson *et al.*, 2007; Grönroos, 2007); and interrelations and networks among organizations (van der Aa and Elfring, 2002; Gummesson, 2004; Love and Mansury, 2007; Tether and Tajar, 2008).

Marketing theory currently provides a stage for intense discussion about its logic. The most notable contribution was the introduction of S-D logic in 2004 and its body of concepts (Aitken *et al.*, 2006) as a new way of considering the roles of firms and their relations in the market (Vargo and Lusch, 2004). We will limit ourselves to those part of S-D logic that we find most pertinent to our research on innovation.

Vargo and Lusch present their message through ten foundational premises (FPs). These are a synthesis of the viable results of service research primarily from the 1970s and onwards. Since originally presented in 2004 the FPs have been continuously improved taking into account the reactions and the dialogue initiated in academic and professional communities (see invited commentaries in the *Journal of Marketing*, 2004, and the journal *Marketing Theory*, 2006, as well as the book edited by Lusch and Vargo (2006) containing critical contributions).

A basic breakthrough concept is contained in FP1 that in its 2008 revision says that service and not goods is the focus of economic and social exchange. Service is exchanged for service and service (not services as opposed to goods) is the application of competences for the benefit of another entity. It implies that all economies are service economies and all businesses are service businesses. This view of economic and social exchanges builds on a fundamental distinction between operand and operant resources (Vargo and Lusch, 2004). Operand resources are those which something is being done to, whereas operant resources are employees, partners, customers and others who do something by applying knowledge and skills.

Moreover, as we will see, suppliers and customers (together with other social and economic actors) compose “service systems”, and are resource integrators on different levels. They interact through mutual provision of service, in order to co-produce (in the upstream value chain) and co-create value (downstream between the customer and the firm) in a logic of togetherness. Value is co-created in service systems when resources are used. The role of the customers is not limited to consumption and merely being an operand resource like in mainstream marketing: customers are active (operant) resources in the value creation process and are always co-creators of value.

Finally, since value is always and uniquely determined in a contextual way by the beneficiary (FP10), an offering represents a potential of value that is actualised through customer purchase and usage. For this reason offerings are called “value propositions” (FP7).

As a foundational theory of marketing, S-D logic is a scholarly contribution that aims to capture evolutionary thinking about value creation in contemporary times and improve marketing and management theory. Service science as a scientific stream of research (full name: service science, management and engineering) was initiated by IBM, the largest consulting company in the world, to innovate service systems. S-D logic and service science, appeared around 2004 independently of each other, soon found that they were after the same thing but from two directions: S-D logic was driven by scholarly curiosity and service science by practitioner interests. Service science is in a phase of ongoing and open development (IFM and IBM, 2007). It is an emerging interdisciplinary field of inquiry that focuses on fundamental science, models, theories and applications to drive innovation and competition (Chesbrough, 2005). Its object is to advance the design and management of service systems (Spohrer *et al.*, 2008). Recent developments of service science are in consonance with S-D logic, focusing on the service system as the principal unit of analysis and extending the original hi-tech bias to quality of life and co-production.

A service system is a value co-creation configuration (Maglio and Spohrer, 2008). It is an array of resources (including people, technology, organizations and shared information) connected to other systems by value propositions (Spohrer *et al.*, 2007, 2008). Individuals, groups, organizations, firms and governments are service systems if they take action, apply resources, and work with others in mutually beneficial ways. That way, service systems include internal (e.g. employees), private (friends and stockholders) and market (suppliers and other economic exchanges) systems and resources.

The service system is an important construct in this framework, since innovation basically takes place at the systems level. Three interesting concepts of value emerge from this framework. Value-in-exchange is the negotiated outcome of the supplier's value proposition and (usually) the money paid by the customer. The integration and application of resources made available through exchange allow value creation. Co-creation of value is driven by value-in-use, but mediated and monitored by value-in-exchange (Vargo *et al.*, 2008). Furthermore, co-creation of value inherently requires several service systems and this is the context in which the value is co-created, hence the expression value-in-context (Vargo *et al.*, 2008). The contextual nature of co-created value suggests that social, ecological, governmental and other environments have to be considered in the process.

From the point of view of innovation the S-D logic and service science schema redefines the relationship between value and innovation, and highlights certain issues that represent challenges for firms:

- A general shift from the prevailing goods-dominant logic to S-D logic, pushing firms to get accustomed to novel forms of managing innovation (Michel *et al.*, 2008). The shift from possession of resources to mobilization of resources is a part of this evolution (Tidd and Bessant, 2008).
- There is need for new basic competencies in marketing, organization and technology to be able to face the challenges of value co-creation in the complex network of service systems (Gummesson, 2006). In particular, relational and interactional competencies are taken into consideration when approaching value-in-context optimisation.

- The need to enlarge the value chain landscape and include social and institutional actors that belong to the wide network of stakeholders. Current demands for sustainability not only refer to financial aspects but also to ecological and social aspects.

We consider the above mentioned issues part to the soft side of innovation. To the best of our knowledge, they remain under-investigated by service innovation scholars. For that reason, they have been examined through in-depth personal interviews of selected firms in Italy, as we will show in the next section.

Empirical results: pathways for evolution

To better understand the direction in which companies are moving in the innovation process adopting the S-D logic and the service science perspective, we chose to conduct case-study research. It is:

[...] an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used (Yin, 1989, p. 23).

Further, case study research can offer deep and comprehensive information that allows us to understand the specific phenomenon especially when little is known about it and current theories are inadequate (Easton, 1995; Eisenhardt, 1989; Yin, 1989).

Based on the analysis of close to a 100 cases, four different approaches – or evolutionary paths – that companies adopt when pursuing innovation stood out. Companies often implement a hybrid strategy of two or more paths but usually one of them attracts primary attention.

The different paths are the dematerialization of offering systems, the virtualisation of value systems, the replication of organizational models and the multiplication of market niches. General to each path is that it enables the innovation process but the four paths also have specific characteristics that distinguish them from each other. They will be presented below, each together with an empirical and characteristic case.

Dematerialization of offering systems

Companies that are moving in this direction start from a conventional industrial model where the core knowledge is mass production and high volume leading to high productivity. The new approach enables them to propose to the market an “enriched” offering in terms of value, especially in the immaterial sense.

In this case, companies have progressively shifted from the production process in its narrowest sense to a new portfolio structure of products/services in more holistic terms. Intangible components – the value of corporate reputation and brand, its management of relationships with the market and the supply chain, the company culture with human and social capital – allow them to provide value that the market recognizes as unique.

It does not mean that companies abandon material goods in favour of the immaterial; the core of their portfolio stays. What changes is the creative reinterpretation of their business concept – intrinsic to the portfolio – in different fields of application, or based on conceivable “sensemaking” dimensions that enrich the offering to become responsive to the ever more advanced and complex needs in the marketplace. This is so both in business-to-business and business-to-consumer markets.

This path is first of all characterized by an important prerequisite for change: the emphasis that top management places on establishing and sharing a strong value system that will steer the company in the right direction. The existence of a value system undoubtedly constitutes a softer side of innovation, which in the cases analysed represents a particularly important driver of the innovation process.

Another important driver is represented by the existence of a widespread culture of innovation within the organization. By analysing the specific details that distinguish the companies studied, we can witness the hierarchical model being surpassed and metamorphosing into flatter structures. From this viewpoint we can also perceive the tendency towards opening up to network structures in order to transmit and share knowledge resources.

The scale of the dematerialization process is also determined by the increased importance of the financial results caused by the “service” component adding value to the goods/services portfolio.

Another feature that distinguishes the companies that follow this pathway and have fully exploited its potential is the increased centrality of their role in the supply chain (especially downwards, but also upwards). We are dealing with a rethinking of the supply chain as a place where “dematerialization” takes place and requires the behaviour of the different entities to become harmonized. Companies moving in this direction need to become pivotal actors in the process or take on functions and roles that were previously filled by others in the same supply chain.

If we look more closely at the offering dimensions, we can notice a shared focus on the idea of sensemaking linked to the portfolio of goods and/or services. Sensemaking can range from aesthetic and symbolic dimension to ethical and value-based ones exploiting the value connected with the brand, the experiences and the value co-creation process.

Loccioni group

The Loccioni Technological Ateliers develop bespoke solutions, like a technological tailor, producing processes and product innovation to improve quality, comfort and safety at home, at work, in the car, in towns and in the nature.

Around a nucleus of values strongly linked to its homeland and cultural heritage, it has opened up to new opportunities by engaging in collaboration and interaction with the outside world.

“At the root of our work there is the LAND, with the lessons she has given us in the past and continues giving us. At the heart of our work there is KNOWLEDGE, meaning technological research and continuous innovation. At the end of our work there is the PERSON, because what we do is our little contribution to quality of life: at home, at work, on the move, in the environment,” is the calling card we read when we open the Loccioni web site.

Over time, Gruppo Loccioni has taken on a leading role within its supply chain, acting as a catalyst in the process of transferring knowledge and competencies that can back up the value element (which supports the material products) with immaterial elements that are strong enough to guarantee recognition of its supremacy in the market. The consistent focus on networks and relationships that involve its partners in the supply chain has cross-fertilized the humus from different cultures and supported activity and consensus of the players of the supply chain.

“We integrate people, ideas, technologies. This has been the Group’s commitment: to build fruitful and faithful relationships with collaborators, clients, suppliers and also universities, research centres, local colleges, innovative partners in order to let the company break out of its borders and develop together with the territory”. Work teams guided by project leaders coordinate the activities of collaborators, suppliers, customers and the best research centres.

Automation, testing and control systems are designed and integrated to help everyone who makes products or offers service to do so in the best possible way.

Organizing cross-competence work teams allows the development of innovative customized solutions in many sectors, from household products to automation processes, from telecommunication networks to environment and energy control.

“People and their knowledge create the enterprise, the network, the system; they represent the real capital”.

Virtualization of value systems

This pathway draws our attention more directly to the role that technology – in particular information and communication technology (ICT) – can play in soft innovation processes. Technology is not an innovative element *per se*, but constitutes the driver that enables companies to activate mechanisms that simultaneously explore and – above all – exploit knowledge.

More than in the other paths, companies adhering to this path see its scope for generating sustainable and exploitable competitive advantage expand. This is part of a philosophy of multiplying knowledge and relationships in an era of complexity. Access to the transfer of immaterial assets over time and space is facilitated.

The virtual, as we have seen in the path towards dematerialization, neither substitutes nor opposes the real. It integrates with it and widens its boundaries, which then opens up to the creation and reinterpretation of actual reality. In this sense, we are witnessing concrete manifestations that stem from ICT and other technology. We do not only see the generation of new business models but also see previous models increase their efficiency and flexibility.

However, technology alone is not enough. All other aspects of soft innovation need to be activated for technology to fulfil its potential. We have witnessed that in companies going virtual the structural and managerial responses become redefined and their ways of working transformed; new consumption models being generated; production and distribution structures are amended; and on a wider scale the philosophies and rules referring to the supply chain and constituting a similar number of ways of interpreting the specific needs of this kind of process are reworked and redefined.

The elements linking the businesses that embark on the virtualisation process on an operational level are quite different. The corporate culture shows more openness towards the potential provided by new technologies. It could not really be otherwise.

The virtual pathway gives ICT and other technology a central role in rethinking a business. It is not just a facilitator to other drivers of change and it is both a starting point and the destination for a change of philosophy.

However, it is not enough to simply believe in the potential of technology: targeted investments are needed. All the businesses we have examined stand out because they have followed up their words with action. They have made *ad hoc* investment that has

translated the immaterial idea of the new business models into operational reality. This is also supportive to continuity, which is another important feature of the companies following an alternative development model.

Companies that have embarked on this journey use technology as their launch pad. They have dual objectives. First, they have striven to make vital processes specific to the sectors they have decided to operate in, more efficient; and, second, they have differentiated their offering structure enough to increase the added value of their offerings.

Therefore, the strategic interpretation of ICT as a vehicle for increased competitiveness is its contextual acceptance of the two dimensions of differentiation and efficiency, constitutes another defining feature of this process. The companies have dealt with this in different ways but it remains a particularly incisive defining feature.

Moreover, in order to fully understand the potential of ICT and other technology, it is important for managers and entrepreneurs in particular to have specific competencies that constitute defining assets for the company. These assets allow them to actively take part in the guidance and advancement of a business.

YOOX.COM

The YOOX group is a global internet retailing partner for leading fashion and design brands, established in Italy in 2000 by Federico Marchetti.

Curious and continuous scouting for new creative possibilities make YOOX.COM, the most important unit of the group, an innovative online space offering exclusive collections. Thanks to a direct relationship with designers, manufacturers and authorized dealers, YOOX.COM is the only provider an infinite mix and match of hard-to-find styles and trends:

- exclusive collections for YOOX.COM by prestigious Italian and international designers;
- a carefully selected range of end-of-season clothing and accessories at accessible prices;
- vintage collectibles;
- capsule collections (packages of representative items) by cutting-edge designers previously confined to selling in a few fashion capitals;
- World wide premières of new brands; and
- a fine selection of design and rare books.

In 2009, four million people visited YOOX.COM every month to play with ideas, objects and colours, inventing their own style and expressing their individuality. Through an emotional and kaleidoscopic shopping experience, YOOX.COM explores fashion from the past and potential styles for the future.

Once inside YOOX.COM customers experience the alchemy of a creative cyberspace, where technology meets women and men to explore a new concept of entertainment via shopping.

YOOX.COM offers its customers exceptional quality of service identified by secure payment; a total privacy warranty; rapid courier delivery with gift packaging; free returns and refunds where required; and efficient customer service via phone and e-mail.

The group has made significant investments in technology and has developed a reliable, scalable information technology infrastructure to support its YOOX technology platforms. To exploit the knowledge and capabilities strengthened over time, the group has recently launched a new unit, YOOX services, which provides retailers and manufacturers with a variety of third-party service such as e-commerce platform management and support, order management, content management, merchandising and marketing.

Replication of organizational models

We also find development through replication of the knowledge system at the root of an existing business model. In many contexts this constitutes a solution to meet increasingly tougher competition. The innovation takes place through optimisation of processes with consideration of both value delivered and cost. It generally requires formalization of the processes (organizational or otherwise) through the codification of knowledge (which may be tacit). It reiterates and replicates the knowledge systems of the original business model by encouraging the participation of other actors.

One example is found in the franchising formula. It is not just the duplication of a business model but it implies an intelligent reinterpretation of it by drawing on the resources needed in soft innovation. It may mean that the business owner moves towards more advanced management, with a vision and greater creative intelligence than the classic competitors in the sector, by applying managerial skills which are either acquired or made more productive through experience gained in the development process. The organizational structures of the companies have been substantially slimmed down and have been formalized according to a philosophy of flexibility whenever deemed appropriate.

The objective is clear: increase efficiency and productivity levels without weighing down the structure, but providing the flexibility the complexity required by the actual situation.

However, we can observe a sort of supervised independence, a controlled self-determination that characterizes the replication processes. This allows companies to activate networks that offer conditions for exchange that will be progressively directed towards enhancing the knowledge resources of the network as a whole.

This knowledge begins with the exploration and examination of the specific needs in the market, of the faint signs that have not yet completely manifested, of the areas that for the moment are poorly defended. It finds application in investment in market research, whether formalized or not. The research can support the choice of future directions and help share information with others involved.

In all the businesses examined, there is an intense drive to exploit their information assets appropriately reworked and filtered through the specificities of the business model and the company's portfolio. It adopts active communication policies dedicated to the market but simultaneously considering others involved. These initiatives are aimed at increasing brand awareness and making the transfer of the philosophies that have made the development of the business model possible. The network model that defines this archetypal path and springs from internal communication and the sharing of principles, knowledge and abilities, is strongly oriented towards the common purpose.

The philosophies that our companies have adopted to interpret the issue of replication through the involvement of other agents, highlight the focus on creating

formal or informal ties that constitute an infrastructure able to make the replication of knowledge effective and efficient.

Calzedonia SpA

Calzedonia SpA was created as an innovative way to sell hosiery and beachwear to men, women and children. It started in 1986 as a franchise, the first branch opening the same year. The company now has 1,200 franchised stores in 25 countries.

The idea for the company came from Sandro Veronesi. The challenge: to make a success out of a low initial investment and the idea of exponential growth in the sales through a network of franchise shops. The brand to be promoted was Calzedonia, the same as the company name. In 1996, the same concept was applied to underwear and sleepwear with the introduction of a second brand, Intimissimi.

In 2003, the company launched a new product line, Tezenis, with the same franchise strategy used for the Calzedonia and Intimissimi brands. The product line includes women's, men's and children's underwear, targeted to a younger and more basic market than that of Intimissimi. It has been successful due to a self-service formula and aggressive pricing.

The capillary-like franchising sales network is only one of the foundations on which the philosophy of the company has always been based. This feature alone would not have let the company gain such a large market share without the competitive quality/price ratio, wide retail assortment, attractive design and the use of innovative materials and fabrics.

The company maintains three different brands and their design, manufacturing, wholesaling and retailing through franchising. Managing such a complex international network offers many challenges of monitoring of the demand and communication flows. Calzedonia constantly focuses on the demand side by continuously monitoring the customers through an ICT platform in its sales outlets. This has not only allowed them to develop but also to rework and improve it over time. The platform also permits the exchange of information between the head office and the franchisee.

Calzedonia invests heavily in advertising campaigns that reinforce brand awareness every season. At the same time, it recognizes the importance of the new media and has recently opened its official page on facebook.

Multiplication of market niches

The ideas for exploitation of knowledge resources are exhausted by the previous pathway of business models replication. An alternative path addresses a niche strategy and concerns the discovery of new markets where the company can exploit its current competitiveness. The existing business model becomes the activating element in new applications. It is an opportunity to utilize the knowledge system and its expertise that has emerged over time to expand its horizons. This opens up new dimensions for milking the potential of multiplication intrinsic to these same knowledge systems.

The distinctive features of this pathway arise from a situation where the company already has a leading position within a well-defined product-market combination. The starting point is the ability to abstract the vital vehicles of the company portfolio in order to reinterpret and rethink them in other contexts than those for which they were originally generated.

What distinguishes their way of modifying concepts is the partial modularisation of the product or service so that it can be replicated in other contexts. The distinguishing feature is not the ability to think of a completely new proposal to introduce to the new markets. Instead it is the action aimed at streamlining the company portfolio development system and allow a partial reworking of the portfolio. In many cases this has involved codifying tacit knowledge systems that have emerged and become available for interpretation or reworking in the light of the dynamics of the new contexts they are applied to.

The opening up of new windows of opportunity has at times required extra competencies and above all human resources able to support the development of the structure over time. Companies have not always chosen to internalise these competencies or augment the resources that exist internally. More often than not they have activated a network that will provide the necessary material and immaterial resources. The philosophy behind resorting to the network is not the same as the philosophies found in the replication process. The network becomes a facilitator, which can allow the sphere of operations to expand in terms of the structure of the company portfolio and the spatial dimension.

The companies that have followed this path show heightened sensitivity to changes in demand dynamics. To confirm this awareness we can also find specific figures dedicated to these activities within the organization even in small companies.

Eurofins Biolab

Biolab was founded in Milan in 1970 as an independent laboratory specialising in tests and evaluations, and in biological, microbiological and chemical analyses. From the beginning, the company policy was to employ highly qualified personnel.

The evolution of Biolab is noteworthy. Starting from the experience gained in partnership with the cosmetics industry, the company gradually expanded its activity to the food market, and eventually to the pharmaceutical market and the consumer goods market (in particular toys and detergents).

Over the years Biolab has grown, expanding its fields of activity to include a wide range of service, from consultation to training, from process risk analysis to new product R&D assessment. It has progressively established itself as a company with a wide array of service to other companies. This side of the company's activity was further expanded when Biolab joined forces with Eurofins, one of the world's largest laboratory groups.

In 2010, the Eurofins Biolab multi-disciplinary teams of biologists, chemists, engineers, physicists and experts in legislation and regulations offer companies a complete consulting service. This includes analyses, controls and studies of all sorts and varying degrees of complexity. They also offer audits, controls and validation of processes, risk analysis, consultancy on quality control systems, assistance and consultancy for obtaining registers and certificates and professional technical training.

Biolab guarantees its presence in Italy through a network of collaborating laboratories. These laboratories allow the company to provide highly competent service to businesses operating in different geographical areas.

Conclusions and further implications

The purpose of the paper was to investigate evolution pathways of innovation with special attention to soft aspects of innovation rather than on technology. S-D logic and

service science are useful frameworks that emphasize a service perspective on innovation (Michel *et al.*, 2008). We have capitalized on the novel concepts and ideas in order to support our views.

We found the convergence of S-D logic and service science on the study of service systems particularly helpful in establishing a basis for systematic service innovation (Maglio and Spohrer, 2008). Service innovation is connected with changes in the service systems (Spohrer and Maglio, 2008) the direction of change is not always obvious. That is partly because the combination of technological management with organization and human viewpoint is responsible for an increasing amount of value (co-)creation, highlighting the emergence of a mostly neglected soft side of innovation. This perspective could allow companies to shift their attention from the innovation output to the different ways to better serve their market (Vargo and Lusch, 2008).

From our empirical data based on almost 100 cases, we defined four service innovation patterns with different directions of change that represented by shared pathways. In particular, new value propositions emerged from the creative recombination of some key resources, also emphasized by the service science literature: people, technology, organizations and shared information (Spohrer *et al.*, 2007; Maglio and Spohrer, 2008). Table I identifies specific operational functions of service science key resources for each path.

A firm's ability to identify the role for each category of resources, to integrate them and to co-create value propositions represents an interesting way of analysing service systems evolution. In the first path, where firms dematerialise their offerings, people play a key role in knowledge transfer within the service systems. Our results clearly show that attention has to be put on the creation of a widespread culture of soft innovation.

The second path points to a virtualisation of the supply chain and emphasizes the opportunity to select people with specific technical and/or relational capabilities in order to support interaction in a virtual domain.

Our third path, the replication of organizational models, requires people to have vision and creativity connected with the capability to be flexible in a context that has to be partially formalised.

In the last path, in which firms are involved in a process of replication of their niche strategy, people have to become genuine knowledge integrators and combine the knowledge generated from the interactions of the service systems involved.

Although our focus is on non-technological innovation, we do not deny the importance of technology for innovation. It is important to understand that the role of technology varies in the different pathways. In our cases it plays the role of enabling or enhancing the effectiveness of a particular strategy, being frequently an operative framework or a platform for information distribution and value co-creation within the service systems networks.

The creative interpretation of the role of the different categories of resources represents only one of the dimensions that characterise the directions of evolution of the service systems we presented in this paper: the creative recombination of the resources represents the other distinctive trait of each pathway that we outlined.

Any paper has limitations. Since our aim was to identify possible directions of change and to identify the corresponding interpretations of the different kinds of resources that service science is considering, the next step could be more in-depth

	People	Technology	Organizations	Shared information
Dematerialization of offering systems	Focused on the transfer of knowledge Widespread culture of soft innovation	Enabling the "dematerialization" of processes	Reconfiguration of the supply chain structure Networked harmonisation	Brand Reputation Values Experiences
Virtualization of value systems	Specific technical competencies Relational capabilities	Enabling the exploitation of reach and richness Strategic vehicle for the increased competitiveness	The virtual integrates and widens the boundaries of the real	Transfer of immaterial assets over time and space
Replication of organizational models	Vision and creativity Flexibility in a semi-formalized context	Access to distributed information Vector of ties	Supervised independence Networked replication of the business model	Codified and tacit knowledge Sharing of values, philosophies and capabilities Abstraction of the business model
Multiplication of market niches	Knowledge integrators High sensitivity to changes in demand dynamics	Repository of shared knowledge Platform for the incremental flows of information	Modularisation for the replication of the niche model Networked exploration of new spaces of opportunities	Specialized skills Customer insights

Table I.
The relations between paths and resources

analysis. Future research efforts might be both qualitative and quantitative and identify more directions of evolution and deepen the practical implications of the different roles resources play in the evolutionary paths.

Note

1. The paper is based on a large research project named "Service intelligence: the engine of the economy", granted by Centro Formazione Management del Terziario (CFMT) – Services Management Training Centre, the management training institution branch of Confcommercio (the association of Italian service companies) and Manageritalia (the union of managers and professionals from the Italian service sector) in Milan. The project has involved a group of academic researchers and professionals for three years.

References

- Aitken, R., Ballantyne, D., Osborne, P. and Williams, J. (2006), "Editorial for the special issue on the service-dominant logic of marketing: insights from The Otago Forum", *Marketing Theory*, Vol. 6 No. 3, pp. 275-329.
- Blois, K.J. (1984), "Productivity and effectiveness in service firms", *Service Industries Journal*, Vol. 4 No. 3, pp. 49-60.
- Carr, N. (2003), "IT doesn't matter", *Harvard Business Review*, Vol. 81 No. 5, pp. 41-9.
- Chesbrough, H. (2005), "Toward a science of services", *Harvard Business Review*, Vol. 83 No. 2, pp. 16-17.
- Coombs, R. and Miles, I. (2000), "Innovation, measurement and services: the new problematic", in Metcalfe, J.S. and Miles, I. (Eds), *Innovation Systems in the Service Economy*, Kluwer Academic, Boston, MA, pp. 85-103.
- de Jong, J. and Vermeulen, P. (2003), "Organizing successful new service development: a literature review", *Management Decision*, Vol. 41 No. 9, pp. 844-58.
- de Vries, E.J. (2006), "Innovation in services in networks of organizations and in the distribution of services", *Research Policy*, Vol. 25, pp. 1037-51.
- Droege, H., Hildebrand, D. and Heras Forcada, M.A. (2009), "Innovation in services: present findings, and future pathways", *Journal of Service Management*, Vol. 20 No. 2, pp. 131-55.
- Easton, G. (1995), "Methodology and industrial networks", in Moller, K. and Wilson, D.T. (Eds), *Business Marketing: An Interaction and Network Perspective*, Kluwer Academic, Norwell, MA, pp. 411-91.
- Edvardsson, B., Gustafsson, A. and Enquist, B. (2007), "Success factors in new service development and value creation through services", in Spath, D. and Fähnrich, K.P. (Eds), *Advances in Services Innovations*, Springer, Berlin, pp. 165-85.
- Edvardsson, B., Gustafsson, A., Johnson, M.D. and Sandén, B. (2000), *New Service Development and Innovation in the New Economy*, Studentlitteratur, Lund.
- Eisenhardt, K. (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14 No. 4, pp. 532-50.
- Gadrey, J. and Gallouj, F. (1998), "The provider-customer interface in business and professional services", *Services Industries Journal*, Vol. 18 No. 2, pp. 1-15.
- Gallouj, F. (2002), *Innovation in the Service Economy: The New Wealth of Nations*, Edward Elgar, Cheltenham.
- Grönroos, C. (2007), *In Search of a New Logic for Marketing: Foundations of Contemporary Theory*, Wiley, Chichester.

- Gummesson, E. (2004), "Return on relationship (ROR): the value of relationship marketing and CRM in business-to-business contexts", *Journal of Business & Industrial Marketing*, Vol. 19 No. 2, pp. 136-48.
- Gummesson, E. (2006), "Many-to-many marketing as grand theory: a Nordic school contribution", in Lusch, R.F. and Vargo, S.L. (Eds), *Toward a Service-dominant Logic of Marketing: Dialog, Debate, and Directions*, M.E. Sharpe, New York, NY.
- Gustafsson, A. and Johnson, M. (2003), *Competing in a Service Economy: How to Create a Competitive Advantage through Service Development and Innovation*, Jossey-Bass, San Francisco, CA.
- IFM and IBM (2007), *Succeeding through Service Innovation: A Service Perspective for Education, Research, Business and Government*, University of Cambridge Institute for Manufacturing, Cambridge.
- Kandampully, J. (2002), "Innovation as the core competency of a service organization: the role of technology, knowledge and networks", *European Journal of Innovation Management*, Vol. 5 No. 1, pp. 18-26.
- Love, J.H. and Mansury, M.A. (2007), "External linkages, R&D and innovation performance in US business services", *Industry and Innovation*, Vol. 14 No. 5, pp. 477-96.
- Lusch, R.F. and Vargo, S.L. (2006), *The Service-dominant Logic of Marketing: Dialog, Debate and Directions*, M.E. Sharpe, Armonk, NY.
- Maglio, P.P. and Spohrer, J. (2008), "Fundamentals of service science", *Journal of the Academy of Marketing Science*, Vol. 36 No. 1, pp. 18-20.
- Michel, S., Brown, S.W. and Gallan, A.S. (2008), "An expanded and strategic view of discontinuous innovations: deploying a service-dominant logic", *Journal of the Academy of Marketing Science*, Vol. 36 No. 1, pp. 54-66.
- Normann, R. (2001), *Reframing Business: When the Map Changes the Landscape*, Wiley, Chichester.
- Pine, B.J. II and Gilmore, J.H. (1999), *Experience Economy: Work Is Theatre and Every Business a Stage*, Harvard Business School Press, Cambridge, MA.
- Prahalad, C.K. and Ramaswamy, V. (2004), *Future of Competition: Co-creating Unique Value with Customers*, Harvard Business School Press, Boston, MA.
- Preissl, B. (2000), "Service innovation: what makes it different? Empirical evidence from Germany", in Metcalfe, J.S. and Miles, I. (Eds), *Innovation Systems in the Service Economy: Measurement and Case Study Analysis*, Kluwer Academic, Dordrecht, pp. 125-48.
- Schmitt, B. (1999), "Experiential marketing", *Journal of Marketing Management*, Vol. 15, pp. 53-67.
- Spohrer, J. and Maglio, P.P. (2008), "The emergence of service science: toward systematic service innovations to accelerate co-creation of value", *Production and Operations Management*, Vol. 17 No. 3, pp. 238-46.
- Spohrer, J., Maglio, P.P., Bailey, J. and Gruhl, D. (2007), "Steps toward a science of service systems", *Computer*, Vol. 40 No. 1, pp. 71-7.
- Spohrer, J., Vargo, S.L., Caswell, N. and Maglio, P.P. (2008), "The service system is the basic abstraction of service science", *Proceedings of the 41st Annual Hawaii International Conference on System Science, 7-10 January, Hilton Waikoloa Village Resort, Waikoloa, Big Island, Hawaii*, available at: www.hicss.hawaii.edu/hicss_41/apahome41.html (accessed 31 October 2009).
- Sundbo, J. (2006), "Introduction: new tendencies in society: the management of innovation and innovation research", in Sundbo, J., Gallina, A., Serin, G. and Davis, J. (Eds), *Contemporary*

Management of Innovation: Are We Asking the Right Questions?, Palgrave Macmillan, New York, NY, pp. 1-5.

- Sundbo, J. and Gallouj, F. (2000), "Innovation as a loosely coupled systems in services", in Metcalfe, J.S. and Miles, I. (Eds), *Innovation Systems in the Service Economy: Measurement and Case Study Analysis*, Kluwer Academic, Boston, MA, pp. 43-68.
- Tether, B.S. (2005), "Do services innovate (differently)? Insights from the European Innobarometer Survey", *Industry and Innovation*, Vol. 12 No. 2, pp. 153-84.
- Tether, B.S. and Metcalfe, J.S. (2003), "Services and systems of innovation", CRIC Discussion Paper, No. 58, CRIC, Manchester, February.
- Tether, B.S. and Tajar, A. (2008), "The organisational-cooperation mode of innovation and its prominence amongst European service firms", *Research Policy*, Vol. 37 No. 4, pp. 720-39.
- Tidd, J. and Bessant, J. (2008), *Integrating Technological, Market and Organization Change*, 4th ed., Wiley, Chichester.
- van der Aa, W. and Elfring, T. (2002), "Realizing innovation in services", *Scandinavian Journal of Management*, Vol. 18 No. 2, pp. 155-71.
- Vargo, S.L. and Lusch, R.F. (2004), "Evolving to a new dominant logic for marketing", *Journal of Marketing*, Vol. 68 No. 1, pp. 1-17.
- Vargo, S.L. and Lusch, R.F. (2008), "Service-dominant logic: continuing the evolution", *Journal of the Academy of Marketing Science*, Vol. 36 No. 1, pp. 1-10.
- Vargo, S.L., Maglio, P.P. and Akaka, M.A. (2008), "On value and value co-creation: a service systems and service logic perspective", *European Management Journal*, Vol. 26 No. 3, pp. 145-52.
- Yin, R.K. (1989), *Case Study Research: Design and Methods*, Sage, London.
- Zeithaml, V.A., Bitner, M.J. and Gremler, D.D. (2006), *Services Marketing: Integrating Customer Focus across the Firm*, 4th ed., McGraw-Hill, New York, NY.

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