

# Chapter 5

## Social Innovations—Manifested in New Services and in New System Level Interactions

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**Abstract** This chapter builds bridges between the research areas of service, social, and system innovations. It highlights the need for an integrated perspective in order to answer the big challenges of today's society and to exploit the opportunities provided by smart technologies. Several approaches applied in the research into service innovations are also relevant in the context of social and system innovations, but broadening the scope from the provider-customer dyad to a multi-agent framework is necessary. Collaborative practices play a crucial role and particular attention has to be paid to dissemination of innovations, in addition to the efforts of creating them.

**Keywords** Empowerment • Open innovation • Social innovation • Systemic issues • User-driven practices

### 1 Introduction

Since the mid-1990s, research into service innovation has rapidly accumulated. Three main approaches can be identified in this research. First, *quantitative innovation surveys* have been used to identify the generality of innovation activities in various service sectors, and *new indicators* suitable to recognizing service innovations have been developed (e.g., Kuusisto et al. 2011; Rubalcaba et al. 2010). Human resources as an important form of innovation expenditures have been highlighted in this context, and the linkages between service innovations and organizational innovations have been emphasized (van der Aa and Elfring 2002).

Second, *innovation in services has been modeled from both the process and outcome perspectives*. The former efforts have typically adopted the traditional R&D process as an ideal (e.g., Alam and Perry 2002), but also more experiential process models have been suggested (Engvall et al. 2001; Toivonen 2010). The outcome perspective includes the modeling of a service product (offering) in a way that enables the identification of its novel elements resulting from innovation. The most famous model of this type is the model of Gallouj and Weinstein (1997) which

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describes a service as a set of final characteristics (user benefits), technical characteristics (production systems), and competence characteristics and defines service innovation as any change in these characteristics.

Third, *the ways to foster innovation activities in services at the organizational level* have been searched for. The “balanced empowerment” system presented by Sundbo (1996) has been the basis for the current interest in employee-driven innovation, which in the newest studies has also been combined with the perspective of user-driven innovation (Hasu et al. 2011). “Balanced empowerment” is a general innovation system involving most employees in an organization. The task of the management is to inspire innovations on the basis of the organizational strategy but also define the framework within which the innovations should be kept (Sørensen et al. 2013).

While research in the above-described areas has been useful, the need for a more holistic stance has become apparent during recent years. The current social, economic, and environmental challenges are too big to be solved via individual product and service innovations created in individual organizations. A crucial question is how to combine various innovations effectively and disseminate them rapidly on the basis of continuous interaction of different organizations. In other words, examining and developing *innovations at the systemic level* have come to the fore. The approaches applied in service innovation research form a good starting point for the structuration of research at this broader level, too. We can apply indicator approaches to map best practices in the development of system innovations in various countries and regions. We can also build up models that describe the nature of system innovations and the processes in which they emerge. Finally, we can construct models that describe the fostering and management of innovation activities in the multi-agent interaction involving various organizations.

*System innovations are interlinked with social innovations.* The concept “social” includes two different aspects that are both essential when innovations are pursued at the system level. First, *the prominent challenges are societal*, concerning environmental and social sustainability in the first place: energy consumption, climate change, aging, unemployment, and social exclusion. These challenges require new solutions in the areas of community infrastructures, housing, workplace design, healthcare, education, etc. Second, “social” refers to *the participatory and networked processes* without which it is not possible to create innovations in a multi-agent environment. While the challenges that we face today are big, there are also new opportunities for solving them via “smart growth,” based on the effective interplay of various knowledge sources via ICT. A prerequisite for the realization of this opportunity is, however, that various stakeholders engage actively in the creation, implementation, and diffusion of innovations.

Social innovations pose *new requirements to policy makers*. At the macro level, there is a need to enhance society’s innovation capacity. At the meso level there is a need to revitalize innovation institutions and foster the innovation activities of public, private, and third sector organizations. At the micro level there is a need to ensure that innovations engage with and are driven by the aspirations of communities and individual citizens (Rubalcaba et al. 2011). All these activities necessitate a strong and coherent nexus between the “knowledge triangle” of education, research, and innovation and the development and monitoring of new policies. A new emphasis is

the empowerment of citizens: their role is not a passive recipient of innovations shaped by others, but an active cocreator in the innovation process.

This chapter aims to summarize the state of the art in the research that combines the perspectives of service, social, and system innovations. It starts by opening up the concept and central topics of social innovation and thereafter analyzes the relationships between social and system innovations. The perspective of service innovation is involved throughout, because most social innovations manifest themselves as new services. We also supplement our analysis with a review on two neighboring research fields: user-driven innovation and open innovation. Results of these fields can be utilized in the further development of studies on social and system innovations.

## 2 The Characteristics of Social Innovations

As the research into social innovations is only beginning, a detailed and generally accepted definition for the concept is difficult to find. In social innovations, solutions are typically sought for a wide range of issues, representing different realms of society: labor market, education, health, housing, etc. (Moulaert et al. 2005). Their common characteristic is that they concern *complex economic and social problems*. The outcomes of innovation usually arise in the form of a service innovation which benefits the members of a community or the whole community (Harrison et al. 2010).

On the other hand, researchers have highlighted the nature of the innovation process as an important characteristic of social innovations besides their content. Here social innovations deviate from service innovations: the interactions taking place *comprise much more than a traditional service relationship*. The sources and goals of innovation are more diverse and the activities and actors more multiple, reflecting the multifaceted nature of social innovations. The participation of actors often includes some voluntary elements (combined with commitment). Social innovations may (1) emerge at the grassroots level among individual citizens who respond to pressing social problems, (2) be produced by private, public, and third sector organizations separately or in cooperation, or (3) result in fundamental changes at the societal and policy level (Rubalcaba et al. 2011). Research in these three areas has focused on the following topics, respectively: the empowerment of citizens and stakeholders, the public-private partnerships and the so-called social economy, and the governance and management of social innovations.

The discussion on *empowerment* highlights that social innovations combine two aspects of social life: the economic aspect and the social aspect. Thus, the aim is not only the production of services and the creation of wealth but also the promotion of values and initiatives involving individual and collective empowerment and the development of democracy and responsible citizenship (Harrison et al. 2010). The process of creation and implementation of social innovations relies on *participatory dynamics*, which requires active input from the various stakeholders and results in fostering and utilizing the citizens' social capital in life and work (Nahapiet and Ghosal 1998). As a research field, studies on participatory practices and empowerment are linked to studies on user- and employee-driven innovation, which is an area of growing interest.

The active role of citizens and their communities is a new emphasis in innovation research. The introduction of social innovations has also changed our notions on more traditional innovation activities—those taking place within and between firms and public organizations. This point of view has focused on *new types of organizations and on the integration of initiatives in existing organizations* (Moulaert et al. 2005). Research has been active concerning the third sector (the so-called social economy) in particular. Here, the noneconomic aspects of economic interventions—e.g., the social integration of disadvantaged people—have been emphasized as an important aspect of the concept “social.” Innovations in this context are sometimes called “pure social innovations” because they address needs that are not satisfied through the market mechanism due to the lack of profit potential. The social economy consists of nonprofit organizations (NPOs), cooperatives and associations, social entrepreneurs, and partnerships between the public and third sectors. Social innovations may be produced either autonomously by the third sector or with the public support; a partnership with the public sector is also possible. In the partnerships, the role of the actors of the third sector may vary from that of a subcontractor to common design and implementation of social policies with the public stakeholders (Harrison et al. 2010).

Also private firms are entering the field of social innovation; corporate social responsibility and concern on sustainable development are more and more often a part of their strategies (Lapointe and Gendron 2004). The way in which *the striving for social innovations changes innovation processes* concerns all types of organizations—both public and private. Unlike innovations in the market sector, which traditionally have been kept outside competition as long as possible, *social innovations call for imitation and diffusion*. In them, open innovation is not an alternative strategy but the primary strategy, i.e., forming alliances and networks is essential. The governance and management of these networks have to support both the creation and dissemination of innovations. Dissemination is a challenging task due to two characteristics of social innovations: *local nature and the lack of codification*. The contribution of social innovations is typically manifested as the density of local networks and as local vitality that may result in new jobs and market activities. Scaling up innovations from this limited context requires the strengthening of their systemic features. It also requires new types of R&D practices that can facilitate the codification of social innovations and the procedures applied (Harrison et al. 2010). An interesting approach developed for scaling up social innovations is *societal embedding* (Kivisaari et al. 2013), which focuses on innovation networks with flexible compositions.

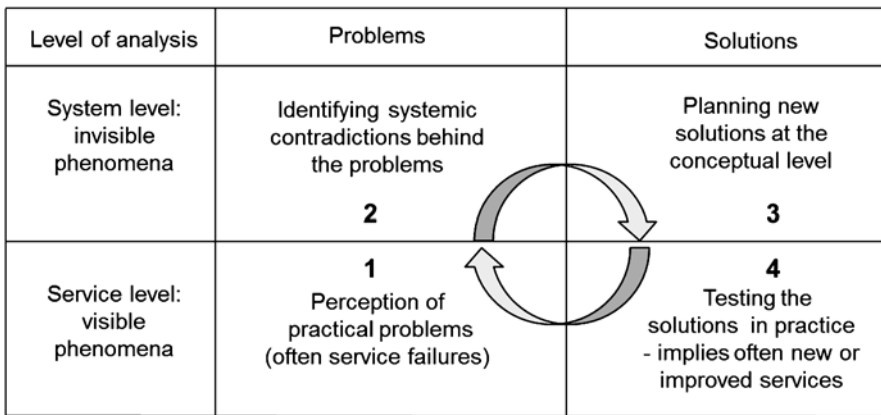
### 3 The Relationship of Social and Service Innovations to System Innovations

The central role of networks in social innovations depicts their interlinkage with system innovations. A system innovation refers to a new operational model which is based on *the simultaneous development of organizations, technologies, services, and*

*multiple network relationships*. An important characteristic of system innovations is that the novelty is not restricted to the ways of operating, but *also the knowledge sources and the ways of interacting with other actors are new* (cf. Gallouj et al. 2013). This aspect points out the various forms of knowledge included in innovation: “knowing who” is essential besides “knowing what” and “knowing how” (Lundvall and Johnson 1994).

Several researchers have highlighted the complexity of system innovations. An important source of complexity is the fact that it is not possible to identify systemic problems directly, but they manifest themselves in various issues of everyday life—often as a service failure. According to Windrum (2008), system innovations have actually much in common with “conceptual innovation”: they question the existing knowledge and assumptions that maintain current services, processes, and organizations. In order to create innovations in this kind of a context, a dialog is needed between the conceptual and practical levels. The approach of expansive learning has suggested a way in which this dialog can be carried out. Here, visible problems form the starting point from which the analysis must proceed to the identification of systemic contradictions. New conceptual solutions should then be sought for diminishing these contradictions. Finally, the new solutions should again be concretized so that they can be tested at the practical level in order to see whether they answer the original problems. This stage often includes a renewal of existing services or the introduction of new services (Fig. 5.1).

System innovations can be either business innovations or public innovations or they may concern both realms of society. The concept of *ecosystem* is increasingly used in the analysis of the development of business sectors (Iansiti and Levien 2004). Examples of system innovations including both the private and public sectors are intelligent traffic and intelligent energy systems (e.g., smart grids). They can be combined to be part of an even more comprehensive type of renewals: so-called city



**Fig. 5.1** Services as manifestations of problems and solutions in the context of system innovations (modified from Hill et al. 2007)

innovations which combine smart infrastructure with new information systems and novelties in social systems.

In the public sector, the interlinkage of system and social innovations is apparent. Here the complexity derives from the fundamental changes required. The changes concern delivery systems and services, organizational structures and processes, attitudes and values, as well as strategies and policies. The change of values has been emphasized in particular. Harrison et al. (2010) identify three dimensions in social and system innovations: (1) social dimension, strengthening the social links, (2) economic dimension, producing wealth, and (3) political dimension, demand-based actions and the democratization of socioeconomic life. These dimensions can be crystallized into the requirements of *valid empowerment, effective services, and legitimate governance*. Preconditions for their realization are the growth of nongovernmental organizations, new values and beliefs in civil society (participation, autonomy, and empowerment), the presence of strong networks and social movements, and the existence of institutions that can diffuse innovations.

An important point to be taken into account is the dual structure that is inherent in all social systems: they include an informal, loosely coupled interaction structure among people and a formal management structure which expresses the official goals, norms, and values of the system (Giddens 1987). Social innovations require interaction between these two systems and are challenging from the viewpoint of governance and management as they include ambiguous, even contradictory features. They encompass initiatives to promote social cohesion but also movements protesting against the established order. They need managerialist approaches in order to result in efficient and effective services but also approaches that emphasize grassroots initiatives (Harrison et al. 2010).

Currently, there is an ongoing change in the intervention strategies of public management which reconstructs its responses to economic and social crises, weakened social links, and the challenges of welfare state (Harrison et al. 2010). The need to foster learning and innovation in a changing environment has led to the development of new organizing principles in public administration that now evolve in parallel with bureaucracy and market imitating views of “customership.” Several researchers refer to a shift from “government” towards “governance”: the rise of networks and partnerships, innovations in democratic practice, and the development of coproduction as a service model. Hierarchically organized, unitary systems that govern by means of law, rule, and order are replaced to some extent with more horizontally organized and relatively fragmented systems that govern through the regulation of self-regulating networks (Newman and Clarke 2009; Sørensen 2002).

All this means that social and system innovations do not emerge without policy measures and governance structures that support their creation. In addition, there is urgent demand for the development of practices of *innovation management* for social and system innovations. Innovation management is equally important in this context as in the context of market-based innovations, and its practices can be either *top-down or bottom-up*. There are three main ways in which social and system innovations can be managed on the basis of top-down principle: regulation-based management, management via the allocation of resources and delegation of decision

power, and political management. Typically, all of these factors function today as both driving forces and hindering factors of innovation, depending on the specific situation. In the bottom-up management, innovation can be promoted via user-driven practices and via the fostering of open innovation. Openness is essential also in intraorganizational practices in order to efficiently utilize the expertise of employees—collaboration across sectors and professions is a key question here.

## 4 Neighboring Research Fields: User-Driven and Open Innovation

The embryonic stage of the research into social and system innovations makes it important to link this research with neighboring scientific fields, whose results can be utilized to supplement it and to promote its further development. The fields of user-driven innovation and open innovation are particularly interesting in this respect. The former has old roots but has become more well known during recent years. The latter is a new approach that in a short time frame has provided important insights about the alternatives in innovation activities and in the management of innovation.

### 4.1 *User-Driven Innovation*

User-driven views are closely linked to social innovation since they examine social agents as coactors in innovation. In addition, studies in this field have recently developed to directions that broaden the analysis from the provider-customer dyad to the societal context of using products and services and to multiple roles of users (consumers, citizens, etc.).

Understanding the users as a source of innovation is not new. As innovation in general, also the role of users was first theorized in the context of material products. Since the early studies, this role has been understood in two main ways: *taking user needs as the starting point* and *relating to users as innovators*. The former can be traced back to the emergence of interest in “user feedback” in the late 1970s (Nelson and Winter 1977). The latter is based on the studies of von Hippel (e.g., 1986, 2005), whose basic argument has been that users provide more than an idea for a new product. They may supply an innovating firm with the identification of a problem, product-related specifications, or even a product design. Lead users are particularly important as they face needs months or years before the greater part of market encounters them.

In services, the development of corresponding views started within the school of service marketing, which applies the new service development (NSD) framework for the analysis of innovation (Carlborg et al. 2013). Here, the focus is on the relationship between the provider and the customer, and the concept of user is applied rarely.

Service marketing scholars have played a central role in developing managerially oriented research on the question of how a producer acquires and structures information of user needs (e.g., Edvardsson et al. 2006). Customer interface as an arena for the acquisition of versatile understanding has been highlighted besides surveys, which have first and foremost mapped the satisfaction of customers. In the newest studies, two additional perspectives have come to the fore: the role of user experience (Payne et al. 2008) and the importance of elaborating information on user needs into shared understanding within the provider organization (Nordlund 2009).

Research into user-driven innovation is relevant from the viewpoint of social and system innovations due to *its linkages to the issues of bottom-up innovation practices and bottom-up innovation management*. More specifically, studies on user-driven innovation have theorized and modeled *collaboration with users during the innovation process*. These theories and models are applicable in the context of social and system innovations as well, with some modifications and supplementations. Application possibilities can also be found in the views that emphasize *the contextual nature of using products and services*. These views highlight the network perspective and the importance of social relationships, which are core elements in social and system innovations.

Collaboration with users has been analyzed before, during, and after the innovation process. The studies of von Hippel represent the “before” approach: here a user starts the development. The alternative in which the actual innovation process is carried out together with users has gained the broadest attention, and three different applications can be identified in it. First, some researchers have focused on user input in the front-end of innovation which allows greater creativity than the actual development stage (Koen et al. 2001). Second, the traditional stage-gate innovation model (consisting of idea generation, screening, commercial evaluation, detailed development, testing, and commercialization) has been modernized into a model where the input from users can be taken in at every stage (Alam and Perry 2002). Third, some researchers have highlighted the demanding nature of the transfer from development to implementation and considered that the involvement of users in piloting is most crucial (Hasu 2001).

A view that recently has aroused particular interest is “after innovation” (Tuomi 2002; Sundbo 2008). It emphasizes that an innovation does not stay the same throughout its diffusion, but is modified in use. Novelties are interpreted and appropriated by the users, and one novelty has different meanings for different user groups. Furthermore, *social practices change together with the incorporation of new products and services*. These perceptions have led to questioning the ideal of strong pre-planning. Instead of it, they favor rapid implementation of ideas in a preliminary or small-scale form. This enables user involvement and the creation of real-time shared experience of the object to be developed (Engvall et al. 2001; Toivonen 2010). “After innovation” and rapid implementation are relevant approaches from the viewpoint of social and system innovations, which typically are practice-oriented and link together development and practice (cf. Harrison et al. 2010).

The contextual and dynamic nature of using products and services is a phenomenon that many researchers with different focuses have recently highlighted.



For instance, researchers examining the experiential side of products and services have pointed out the significance of *social networks as the framework for experiences* (e.g., Payne et al. 2008). The perspective of service-dominant logic (SDL) has raised to the discussion the role of users in value creation. Vargo and Lusch, the developers of this perspective, argue that the value of service is always cocreated by the provider and the user; the provider cannot deliver value on behalf of the user. This is due to the fact that the multiple relationships in the user's economic and social context contribute to the value creation—the *user integrates contextual resources* with the specific input received from the provider (Vargo and Lusch 2004).

Recent research has also emphasized the multiplicity of user groups: ordinary users, critical users, and nonusers, in addition to lead users. Besides individual users, user communities play a growing role as sources of innovation—both existing communities and new communities that grow around novelties (Kaasinen et al. 2010). The research on users is integrating with consumer research, and the *cultural consumption theory* has apparent linkages to the framework of social innovations. It draws attention to social, cultural, moral, and political values that influence individual consumers and consumer groups (Gabriel and Lang 2008). Interesting is also the research into *the interplay between the roles of customer and citizen*. Scholars in this area have highlighted that the rights and responsibilities of citizens are very different from those of customers: citizens are responsible members of a collective, and they are not always sovereign actors but restrained by existing structures, e.g., power structures (Rosenthal and Peccei 2007).

## 4.2 Open Innovation

Open innovation refers to the use of purposive inflows and outflows of knowledge to accelerate internal innovation and to expand the markets for external use of innovation, respectively (Chesbrough 2011). It is increasingly evident that organizations do not possess all the valuable knowledge in-house, which highlights the utilization external sources. The literature on open innovation focuses on the role of interactive structures and processes, covering a range of more or less formalized cooperation models.

Wang et al. (2012) argue that open innovation represents a quantum leap with respect to the previous literature on collaborative innovation strategies:

- It emphasizes that innovating organizations have to make full use of both internal and external innovations. The idea that external sources of innovations are as important as internal ones was not present in previous literature.
- It offers a unified framework in which an organization's innovation strategy, the choice between external technology sourcing modes, the creation of absorptive capacity, and business model thinking are tightly linked to each other.
- The buzz on open innovation has triggered many firms and organizations to redirect their innovation strategy in new ways.

**Table 5.1** Comparing open innovation with social and system innovations (Kuusisto and Vänskä 2011)

	Open innovation	Social and system innovations
Focus and outcome of innovation	Product and technology dominant	Usually intangible in nature and often manifest themselves in service innovations
Innovation process	Applies the traditional stage-gate model enriched with the knowledge flows outside the organizational boundaries. Focus on inputs and outputs	Multifaceted; characterized by rapid application and “after innovation.” Focus on the process
Actors involved	Mainly businesses and commercial markets	Private, public, and third sector organizations, individual citizens, and their communities
IP Management	Strong IP protection enabling patents, licensing, technology-based acquisitions, joint ventures, and non-equity R&D investments	Free access to knowledge, extensive publishing of knowledge

Open innovation has apparent linkages to social and system innovations: open modes stress the significance of collaboration and social relationships for effective innovation strategies. However, there are also differences, as shown in Table 5.1.

Differences in the focus of innovation/innovation outcome and in the IP management can be considered to reflect the early stages of open practices in social and system innovations, whereas the difference in the actors involved shows deeper difference in the nature of innovations. Also the difference in the innovation process can be interpreted in this way, but it may also indicate that social and system innovations are paving the way for a more versatile view on the processes in which innovations emerge.

In the private sector, an element of open innovation is the utilization of knowledge, and intellectual property rights (IPR) in particular, as a tradable asset. In the context of material goods, businesses may examine their IP portfolio and seek to sell or license out those intellectual assets that are not relevant for their core business. The abundant inside-out and outside-in knowledge flows involved highlight effective IP protection and management systems. The paradigm of open innovation has recently been applied to services, too (Chesbrough 2011). Here, the trading of IPR plays a minimal role, but the utilization of external knowledge is equally important.

In the public sector, open innovation covers specific networks, which consist of collaboration between public, private, and third sector service organizations in the field of innovation (Gallouj et al. 2013). However, the development of open innovation practices in the public sector has not been very rapid until now, and the focus has been mainly on the outside-in knowledge flows; the inside-out approach has received less interest. This situation is understandable to some extent, considering the responsibilities of governments to handle and protect confidential data (Lee et al. 2011). As regards nonprofit organizations, an increasing number of them are

initiating a shift towards a new collaborative paradigm (Bommert 2010). They take advantage of the growing number of citizen networks and new types of online intermediaries to enhance public value.

## 5 Summary and Conclusions

Since the mid-1990s, research into service innovation has rapidly accumulated. The next big challenge is how to take a step forward from the level of companies and organizations to broader levels on which today's most urgent issues need to be solved. It means that service innovations have to be studied and developed hand in hand with social and system innovations.

Social innovations are linked to different realms of society, but their common characteristic is that they concern complex economic and social problems. Their outcomes usually arise in the form of a service innovation, but the process of social innovation comprises much more than a traditional service relationship. The sources, goals, actors, and activities of innovation are more diverse. Social innovations may emerge at the grassroots level among individual citizens; they can be produced by private, public, and third sector organizations; or they may result in fundamental changes at the societal and policy level. Top-down and bottom-up activities are both important in the stimulation and management of social innovation processes. Top-down activities are linked to changes in policies and regulations and are often necessary for the materialization of social innovations. Bottom-up grassroots activities constitute an "engine of social innovations" and are linked to user-driven approaches in innovation.

An essential characteristic that separates social innovations from market-based innovations is the central role of dissemination: social innovations call for imitation. In them, open innovation is the primary strategy, i.e., forming alliances and networks is a core task. Due to the typically local nature, the dissemination and scaling up of social innovations require specific efforts, among which strengthening of their systemic features is an important starting point. Thus, social and system innovations are interlinked. A system innovation is based on the simultaneous development of organizations, technologies, services, and multiple network relationships. In the novelty created, new ways of interacting with other actors is an important ingredient.

Three important goals can be recognized for further research in this area. First, an improved understanding about the nature of social and system innovations is needed in order to foster and support their emergence. Second, existing methods and tools should be adapted and new ones developed for the examination and management of service, social, and system innovations and for the evaluation of their impacts. Third, policy competences should be improved to harness the benefits of service, social, and system innovations. The achievement of these goals requires both theoretical analysis and empirical evidence. Modeling the social and system innovations, case studies, utilization of statistical sources, and policy analysis would all be useful for the progress of this important research area.

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