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Social Innovation:
Definitions and models reconsidered

ATTILA HAVAS – GYÖRGY MOLNÁR

ABSTRACT

Social innovation (SI) has become a widely used buzzword in recent years. It is portrayed as a solution – almost a panacea – to many different types of societal and environmental problems. We can also perceive this development as a strong impetus to clarify its meaning, the actors involved in SI processes, their objectives, activities and interactions, as well as SI processes. Hence, this paper critically reconsiders the plethora of SI definitions, as well as recent SI models. As our main results, we propose a new, nominal definition and then develop a new model of SI, inspired by the multi-channel interactive learning model of business innovations. The new definition and model can offer a pertinent conceptual framework for SI policy-makers, policy analysts, as well as practitioners when devising, implementing or assessing SI.

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Társadalmi innováció: Definíciók és modellek

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ÖSSZEFOGLALÓ

A tanulmányban kritikusan áttekintjük a társadalmi innováció (TI) eltérő definícióit és modelljeit. A definíciók módszertani hibáinak kiküszöbölése érdekében egy általános, új definíciót javasolunk. Számos TI modell az üzleti innováció lineáris modelljének logikáját követi. Ezzel szemben az általunk javasolt új modell nem bontja szakaszokra az innovációs folyamatokat, hanem a különböző típusú szereplők közötti együttműködést, s ezzel a folyamatos visszacsatolást és a kölcsönös tanulást állítja a középpontba, mert a szereplők között megoszlanak azok a tudáselemek, amelyek mind nélkülözhetetlenek a sikeres innovációs tevékenységekhez.

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Abstract

Social innovation (SI) has become a widely used buzzword in recent years. It is portrayed as a solution – almost a panacea – to many different types of societal and environmental problems. We can also perceive this development as a strong impetus to clarify its meaning, the actors involved in SI processes, their objectives, activities and interactions, as well as SI processes. Hence, this paper critically reconsiders the plethora of SI definitions, as well as recent SI models. As our main results, we propose a new, nominal definition and then develop a new model of SI, inspired by the multi-channel interactive learning model of business innovations. The new definition and model can offer a pertinent conceptual framework for SI policy-makers, policy analysts, as well as practitioners when devising, implementing or assessing SI.

Keywords: Definitions and models of social innovation, Multi-channel interactive learning

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1   INTRODUCTION

Social innovation (SI) has become a widely used buzzword in recent years. It is portrayed as a solution – almost a panacea – to many different types of societal and environmental problems. We can also perceive this development as a strong impetus to clarify its meaning, the actors involved in SI processes, their objectives, activities and interactions, as well as SI processes, their outcomes and impacts – and thus advance the measurement of SI – and derive apt policy implications.

There is wide variety of SI definitions. Some authors perceive – and interpret – this diversity as a sign of lack of maturity, or theoretical sophistication: "research on SI has been criticized for being *fragmented, non-cumulative*, while *the SI concept* itself has been *ambiguous* due to a plurality of definitions, perspectives and research settings" (van der Have and Rubalcaba, 2016: 1932, emphasis added). Despite this diversity, we have identified two major methodological problems concerning a large number of the existing definitions of social innovation. Given these shortcomings, the paper also offers a new definition of social innovation. (section 2)

Similarly, there are several SI models in the literature. Some of these identify successive 'stages' of SI, and thus these are linear models – just as the science push and the demand pull models of business innovations. Other approaches stress the importance of the context of a given social innovation initiative, as well as the importance of feedback loops. The paper offers an overview of these various models, highlighting their pros and cons. (section 3)

Further, the paper proposes a new model of SI, inspired by the multi-channel interactive learning model of business innovations (Caraça *et al.* 2009). (section 4)

Finally, methodological, theoretical, and policy implications are derived in the concluding section.

2   DEFINITIONS OF SOCIAL INNOVATION

Most scholars studying SI tend to juxtapose social and technological innovations. In this paper we offer a different distinction, based on the *primary purpose* of innovation activities. When the primary objective is improving the performance of a firm, we can speak of business innovation. When innovation is aimed at tackling a societal problem, actors are engaged in social innovation.[1] Thus, it is important to distinguish the *purpose* of innovation and its *'nature' or 'object'*, that is, what is being changed by innovation activities. As for their nature, that is, what is changed by an innovation (or: what its object is), innovations can be purely technological, non-technological, or a mix of the two, that is, socio-technical.

Both technological changes (new products and processes) and non-technological ones (new organisational and managerial solutions, marketing and financial methods, entering new markets, changing existing social networks and structures, the 'rules of the game', etc.) can serve either business or societal objectives – just as their combinations.

In real life we also observe hybrid innovations, those pursuing a societal purpose, but to some extent following a business logic, and thus using business forms and

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[1] Following a slightly different argument, business and social innovations are also distinguished e.g., by Pol and Ville (2009).

business methods, practices, and approaches when addressing a societal problem. Examples include firms operating similarly to their competitors in a given market – but employing people suffering from various types of disadvantages and/or discriminations. Other social enterprises offer products and services addressing a social objective and while their aim is to make a profit, they reinvest it into their cause rather than paying it out to investors (either to develop their capacities to address the social need or fund other social projects).

When characterising a given innovation, we maintain a 'hierarchy' between these dimensions: the purpose defines if it is a business, social or hybrid innovation, while its nature refers to its object: what is being changed by it. This distinction is crucial both from a theoretical and a policy point of view. For example, new organisational solutions can be an integral part of a firm's innovation activity or can be elements of social innovations. The types, ways, and frequency of contacts among people, as well as their communication and co-operation channels, methods, and patterns are changed in both cases; still, in terms of purpose, the first one is a business innovation, while the latter one is a social innovation. Further, changes in social practices (networks, institutions, cognitive frames, etc.), without an explicit purpose to tackle a societal problem or create a new societal opportunity is not a social innovation (in terms of purpose), even if it may have major social consequences. A trivial example is the impact of the widespread diffusion of television sets: that was a business innovation, causing immense changes in the every-day life of hundreds of millions, if not billions, of people.[2]

Innovations can also be characterised by their *degree of innovativeness, geographic scope, scale*, as well as the *source and type of knowledge* utilised for innovation. In terms of innovativeness, innovations can be either incremental or radical, and even disruptive. Incremental innovations lead to a moderate change or improvement to existing goods, services, and solutions, but do not challenge the existing artefacts or solution fundamentally. The latter is done, in turn, by radical innovations, which are also more likely to contribute to transformations, e.g., in the form of new technological systems or techno-economic paradigms.

Certain authors claim that social innovation has a long history. For example, Godin (2012) considers social innovations from the first third of the 19th century to the present. He is using radically different meanings of social innovation over time: socialism, social reform, and alternatives to 'established' solutions to social needs. This rather broad interpretation of SI might be interesting from a historical perspective, showing how diverse is the use of this term by various authors in different periods. Yet, it might also cause some confusions.

Drucker (1957: 23) also posits that "In respect to social innovation it goes back almost two hundred years. The Northwest Ordnance of 1787, which innovated the pattern of settlement and government for the empty North American Continent, was an early example." He stresses that social innovation is different from reform and revolution: "Unlike reform it does not aim at curing a defect; it aims at creating something new. Unlike revolution it does not aim at subverting values, beliefs and institutions; it aims at using traditional values, beliefs and habits for new

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[2] A more shocking example is offered by Gillwald (2000): depending on the theory one uses the Ku Klux Klan can either be called a social innovation or not. It is a social innovation if one uses "social change" as the criterion, but it is not if one uses the purpose as the criterion (referred to in Rüede and Lurtz 2012). We can also mention new social structures and practices imposed upon the entire population of countries by dictators as fundamental social changes that are not social innovations.

achievements, or to attain old goals in new, better ways that will change habits or beliefs" (Drucker 1957: 45). Using modern terminology, various types of public sector innovations, e.g. educational methods and hospital administrations, together with organisational innovations leading to productivity gains, as well as marketing practices are all under the 'umbrella' of social innovation in this approach. Again, this 'umbrella notion' is so broad that it can be easily misleading and confusing.

A very large number of SI definitions were proposed in the last few decades: for example, 76 definitions are reviewed in Edwards-Schachter *et al.* (2012), 252 definitions, published between 1955 and May 2014, are identified in Edwards-Schachter and Wallace (2017), while 12 "archetypal definitions" are considered in Benneworth and Cunha (2015).

Clearly, we cannot offer a full overview of this plethora of SI definitions, let alone a thorough analysis of them. It can be claimed, however, that these definitions juxtapose social vs. technological innovations. It is characteristic that the most ambitious attempt to analyse SI definitions is set out "to better draw the frontier lines between SI and 'classical' technological innovation and other innovation types" (Edwards-Schachter and Wallace 2017: 65). As already explained, definitions based on the distinction between technological and social innovations do not offer a solid conceptual base to analyse social innovations.

We recall four SI definitions to highlight two further major methodological shortcomings. The first one is coined by Heiskala (2007: 74) as „changes in the cultural, normative or regulative structures (or classes) of society that enhance its collective power resources and improve its economic and social performance". (emphasis added)

The first one is proposed by The Young Foundation (2012: 18): „Social innovations are new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need – more effectively than existing ones – and lead to new or improved capabilities and relationships and better use of assets and resources." (emphasis added)

The second one is composed by Moulaert et al. (2013: 16): „(…) acceptable progressive solutions for a whole range of problems of exclusion, deprivation, alienation, lack of wellbeing and also to those actions that contribute positively to significant human progress and development. (…) Socially innovative change means the improvement of social relations – micro relations between individuals and people, but also macro relations between classes and other social groups." (emphasis added)

A third one is presented in Andries et al. (2019: 283): "the development of product, process, organizational or marketing innovations that improve the access of vulnerable groups in our society to basic provisions, such as quality food, water, housing, energy, transportation, education or training, employment, (health)care, etc." (emphasis added)

Finally, for Rehfeld et al. (2015: 6) "Social Innovation refers to novel combinations of ideas and distinct forms of collaboration that transcend established institutional contexts with the effect of empowering and (re)engaging vulnerable groups either in the process of social innovation or as a result of it." (emphasis added)

We can identify two types of major methodological shortcomings. First, some of these definitions are confined only to a certain type of SI, and thus these are too

specific, i.e. cannot be applied generally. Second, a large number of these definitions stress that an SI must have a positive impact. Clearly, innovations, be they business, social or "hybrid" innovations, usually have different types of impacts – social, economic, and environmental –, affecting various actors in different ways. These impacts can only be assessed by thorough analyses of actual innovations, in a given context, from a certain angle, that is, applying a relevant set of evaluation criteria and methods. A definition of any type of innovation, therefore, must not include any positive (or negative) impact. Further examples of SI definitions assuming – 'stipulating' – positive impacts are presented in Annex 1.

Further two, closely interrelated methodological shortcomings are stemming partly from some of these definitions themselves, partly from the way of using them to analyse SI processes: the unit of analysis and the degree of novelty is not defined or considered. Yet, it would be of crucial relevance – both for SI practitioners and policy-makers – to have a clear objective as to the degree of change is aimed at, as well as if the changes would be needed at micro, meso, or macro level, or a combination of some of these levels.

Table 1: Levels (units) of analysis in social innovation definitions

SI definition by	Unit of analysis
Godin (2012)	Macro level
Drucker (1957)	Macro level
Heiskala (2007)	Meso and macro levels
The Young Foundation (2012)	Micro level
Moulaert et al. (2013)	Micro and macro levels
Andries *et al.* (2019)	Micro level
Rehfeld *et al.* (2015)	Micro and meso levels

Source: own compilation

Given these shortcomings, we suggest a new, generally applicable definition of SI: *Social innovations are novel solutions or novel combinations of known solutions, aimed at tackling a societal problem or creating new societal opportunities.*

3   MODELS OF SOCIAL INNOVATION

For decades, business innovations had been perceived as a sequence of clearly discernible activities, such as basic research, applied research, product development, prototyping, manufacturing in small batches, scaling up to mass production, marketing, and sales. That is the science push model of business innovations in a nutshell.[3] Then other observers claimed that innovation is induced by 'detecting' demand for new products, and thus market research became the starting point in the demand pull model of business innovations, followed by product development and the other activities already identified in the science push model.[4] Both models offer a schematic view of innovation, implicitly suggesting that innovation is not only an

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[3] It is also referred to as the technology push model of innovation in certain publications.

[4] For a thorough literature review on these two models, especially on the debate on their relevance – empirical validity –, see Di Stefano *et al.* (2012)

easy-to-understand process, but it also easy to implement; it is simply a series of stages (of activities), following each other in a pre-defined, logical sequence. Hence their 'umbrella' label is liner models of business innovations.

Any practitioner would immediately know that in real life it is never that simple and never a linear process. Eventually, analysts have also recognised that new models would be needed for a better characterisation of innovation processes to guide its observation, understanding, and measurement, leading to more appropriate theoretical approaches to innovation, as well as to assist policy-makers in devising more effective science, technology, and innovation (STI) policy tools and business people in developing innovation strategies and managing innovation projects. The first important breakthrough was the chain-linked model of innovation, developed by Kline and Rosenberg (1986). This model identifies several types of feedback loops between the necessary activities and stresses how crucial these are. The chain-link model has then been extended into the networked model of innovation. Its recent, sophisticated version, that is, the multi-channel interactive learning model of innovation has been devised by Caraça *et al.* (2009) (see section 4)

Yet, the linear model, especially the science push model, is not only still decisive in the mind-set of many economists and STI policy-makers at the national and EU levels5 (Havas 2014, 2015), but has also influenced the observers of social innovation processes. It is even more surprising that researchers sensitive to social issues have also accepted the simplified, schematic view of innovation processes when devising their models of social innovation. Some of these models are briefly presented in the following sub-section.
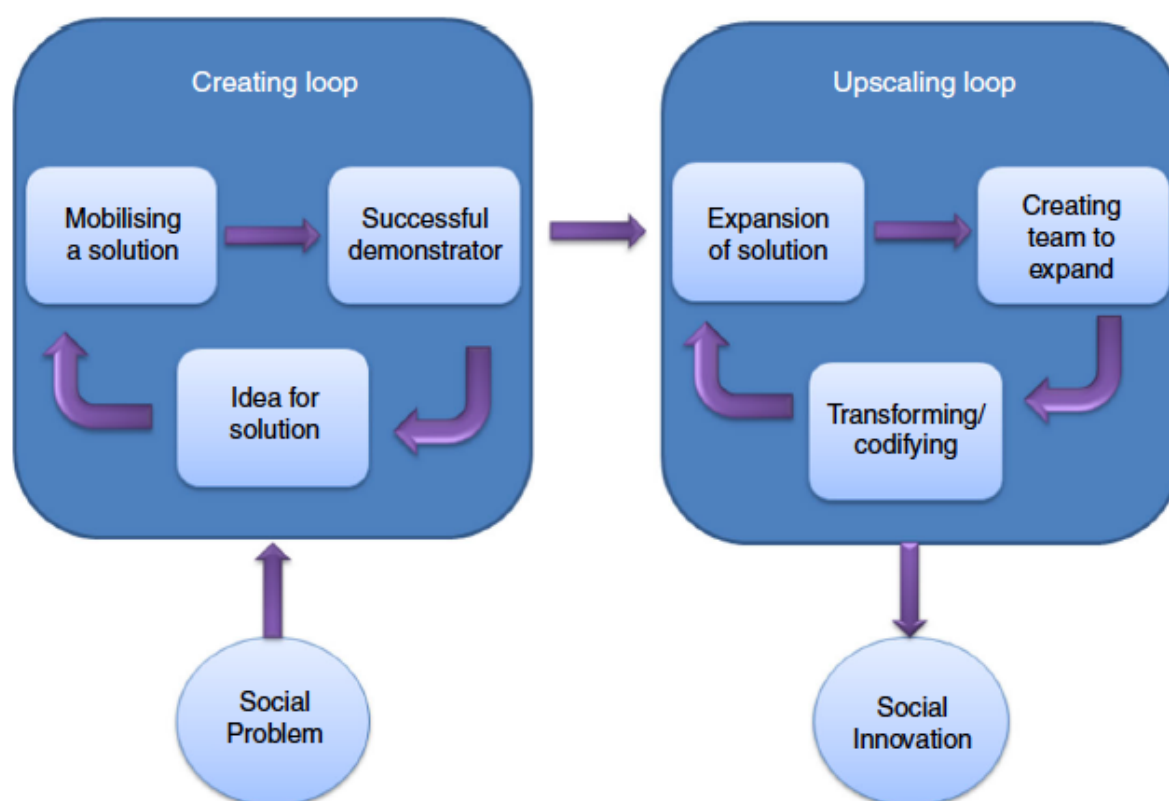
3.1   Linear models of social innovation

Re-interpreting and generalising several social innovation models, Benneworth and Cunha (2015) have arrived their "process approach" to understanding social innovation. They have identified two "loops": the creating loop and the upscaling loop. (Figure 1)

Figure 1: A process approach to understanding social innovation

Source: Benneworth and Cunha (2015), Figure 1

It is worth highlighting three features of this model, of which the first two are intertwined. First, a 'single' social innovation is merely perceived as a "successful demonstration", that is, not an innovation.

Second, "upscaling" is possible by "expanding a solution" thanks to the activities of a team created to "expand", "transform", and "codify" a "solution". What is a "solution" then? Not an innovation (a social one) – as opposed to the standard definition of innovations?[6] Moreover, the authors highlight the following claim as one of the "key learning points": "social innovation involves creating a solution to a societal problem, that is readily scalable" (p. 515). Similarly, they posit "Successful innovations have two key characteristics, they create societal problem-solving capacity, and that solution is scalable to other contexts." (p. 510) Again, what about a solution that *solves* a certain societal problem in a given context, but for some reasons is not – or cannot be – scaled up ("expanded")? In other words, they assume that "scaling up" is a seamless, smooth process, not requiring any major effort to adapt a given solution to a different context when it is being "transformed". Actually, the term "transform" only appears once in their paper (in Figure 1), while "adaption" is not mentioned at all. Further, although codifying is one of the "steps" in their six-step "process approach to understanding social innovation" it is mentioned only once besides

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[6] "An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations." (OECD 2005: 46) The key feature of this definition is that an innovation is the *implementation of a new solution*. In other words, it is not just idea, it must be introduced into practice, but when it is introduced by one actor, it is an innovation, regardless of the breadth of its diffusion (or the "scale" of its application).

Figure 1: "Codification: Produce a guide, toolkit, vade mecum for the activity". (Table V) This lack of elaboration suggests that (i) "codification" is possible, that is, there are only minor differences between multifarious contexts, and (ii) "codification" is a straightforward "step", and thus it does not necessitate any discussion or explication.

Third, although this model is comprised of two "loops", it suggests a sequence of six steps needed for social innovation. The authors stress this feature: "Social innovation can be understood as a six-step model." (p. 515) Moreover, feedback loops between any of these six steps are not elaborated on at all; the term feedback is not used in the article.

The authors illustrate their synthetic SI process model by summarising three SI models formulated by other colleagues and an earlier version of theirs. Figure 2 depicts the latter one, while Figure 3 presents one of the former ones.

Figure 2: Seven stages of the SI process
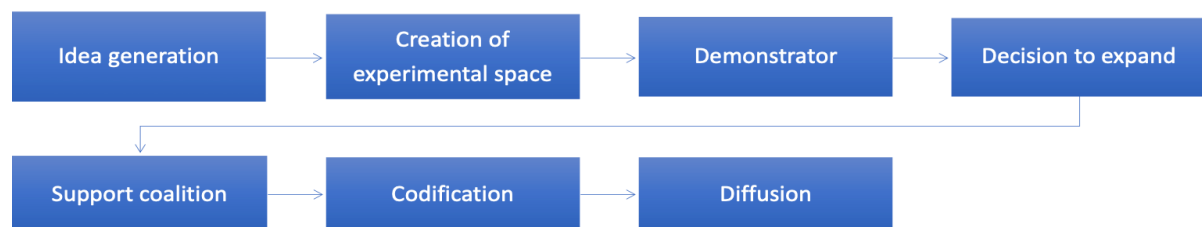
Source: Cunha and Benneworth (2013), adapted from Table 1

Figure 3: The process of social innovation

Source: Mulgan (2006), as presented in Benneworth and Cunha (2015), adapted from Table III

In the original description of the Mulgan model there are no short labels for the individual stages, those in Figure 3 have been proposed by Benneworth and Cunha (2015).[7] Instead, Mulgan (2006) presents the process of social innovation organised into sections, with the following – occasionally somewhat long – titles:

- Generating Ideas by Understanding Needs and Identifying Potential Solutions
- Developing, Prototyping, and Piloting Ideas
- Assessing, Scaling Up, and Diffusing Good Ideas
- Learning and Evolving.

Thus, Mulgan speaks of four stages, not five ones. He also acknowledges the difference between his linear description of social innovation and real-life cases: "This linear account of innovation provides a useful framework for thinking about change, but the stages are not always consecutive. Sometimes action precedes understanding. Sometimes doing things catalyses new ideas. Feedback loops also

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[7] The five stages as „named" by Benneworth and Cunha are actually much closer to the revised version of Mulgan's process model, presented in Murray *et al.* (2010) (also referred to in Benneworth and Cunha 2015: 1): Prompts, inspirations and diagnoses; 2) Proposals and ideas; 3) Prototyping and pilots; 4) Sustaining; 5) Scaling and diffusion; 6) Systemic change.

exist between every stage, which make real innovations more like multiple spirals than straight lines. (p. 155)

Indeed, in a revised version, the model is depicted as a spiral. (Figure 4)

Figure 4: The six stages of social innovation
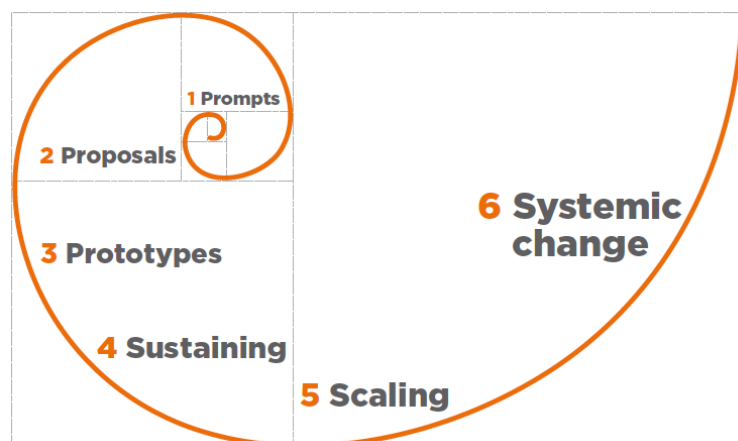
Source: Murray *et al.* (2010)

This revised version of the model is also accompanied by caveats concerning its linear nature:

> "We describe the stages of innovation as spreading outwards from prompts and ideas to scale and growth. Some innovations do develop in this linear way, and we find this framework useful for thinking more rigorously about methods. But many do not develop in a purely linear fashion: some go quickly to scale and then have to adapt fast in the light of experience; often, the end use of an innovation will be very different from the one that was originally envisaged; sometimes action precedes understanding and sometimes taking action crystallises the idea. And always there is an iterative circling back as new insights change the nature of the innovation." (pp. 8–9)

> "These stages are not always sequential (some innovations jump straight into 'practice' or even 'scaling'), and there are feedback loops between them." (p. 12)

It has to be added that Murray *et al.* (2010) is not an academic publication, its intended readers are social innovation practitioners and policy-makers. Yet, it seems to be rather influential in academic circles, too: it has been cited by nearly 500 times in papers recorded in the Web of Science database.[8]

It is certainly important that the authors stress the non-linear nature of social innovation processes. Yet, experience suggests that many decision-makers – working as politicians, policy-makers or business people – prefer simplified models – that are easy-to-understand and seemingly easy-to-implement –, as opposed to those ones that attempt capturing complexity. When these models are presented in eye-catching, attractive, easy-to-remember graphics, such as the "spiral model" of social innovation, their impacts are likely to be even stronger. The decisive influence of the science push model of business innovation in recent STI policy tools and innovation scoreboards and 'league tables' – despite the claim that the "linear model is dead",

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[8] http://apps.webofknowledge.com/Search.do?product=UA&SID=E3S6ZSbk8RzhRP5pgS5&search_mode=CitedReferenceSearch&prID=dbd5d9d9-7570-490a-98f7-51db0eb32d1d

posited in several academic papers already in the late 1980s and early 1990s – confirms this general observation.

3.2 Non-linear models of social innovation

As opposed to trying to identify "stages" of social innovation, Lawrance *et al.* (2014) have constructed a theoretical framework for the study of managing social innovation. (Figure 5) Its starting point is the way, in which a social problem is perceived and understood, i.e., not the novel solution itself. Thus, this approach "not only offers a way to explore the impact of a novel solution, but also helps to avoid solution myopia, an exclusive focus on the characteristics of the novel solution that detaches it from the environment it seeks to change." (p. 327) It also stresses the importance of the social context, a particular community, in which the problem occurs and is perceived as a problem. Thus, transformation is analysed as a process and not merely as an outcome. "A community focus provides a way to explore how a social problem is experienced by a particular group of people and how novel solutions might interact with these ways of thinking and behaving towards a social problem in ways that can lead to significant change." (p. 327) Finally, this framework also "highlights the complex relationship between novel solutions to social problems and existing ways of thinking about those social problems. The literature on managing social innovation tends to present this relationship in one-directional terms, where the introduction of a novel solution in itself leads to a change in existing ways of thinking about social problems." (p. 327)

This framework directs the attention of analysts and managers to the process of social innovation in its context. Social relationships, material objects of the members of a given community, together with their norms, values, beliefs, symbols and ideas determine how social problems are perceived and constructed, but this understanding also have impacts in the other way around. The same goes for the creation of novel solutions: that process is also guided by social relationships, material objects of the members of a given community, their norms, values, beliefs, symbols and ideas, while the new solutions are likely to modify this set of social (and cultural) factors.

The most important elements of the context include resources, relationships and beliefs of people in a wider communities, broader social networks, technologies, and history. Economic factors, e.g. economic networks and relationships are missing from this model.

# Figure 5: A theoretical framework for the study of managing social innovation
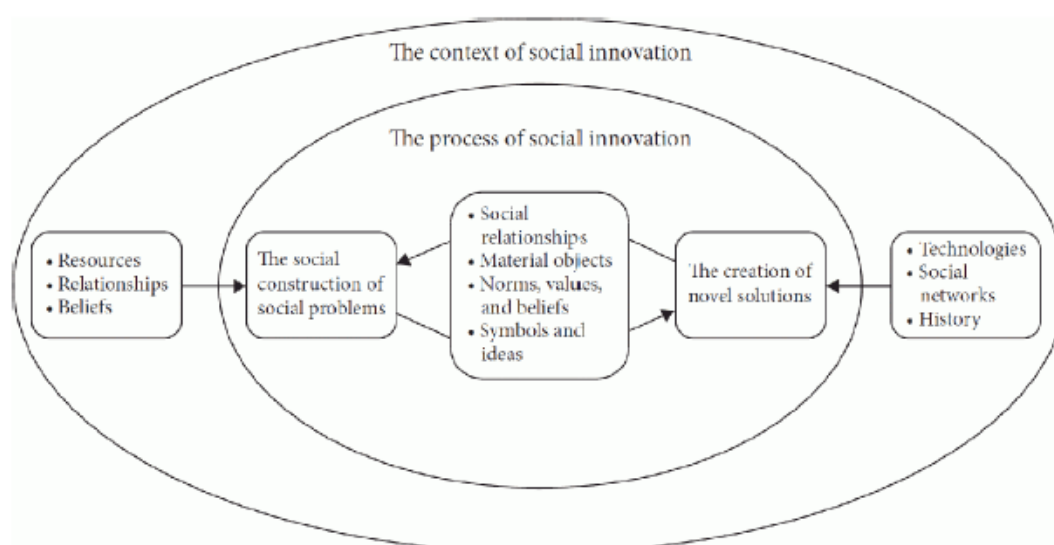
Cajaiba-Santana (2014) proposes to analyse social innovations as those based on collective actions in a given social system, 'ruled' by its particular set of institutions ('rules of the game', that is, norms, formal and informal rules, conventions, and values). Further, the historical and cultural context of a given social innovation determine these processes, and thus it is of crucial importance to understand this context. He combines this approach with stressing the role of agency. "Through the interplay between institutions and actions, called the process of structuration, institutional practices shape human actions that, in turn, confirm or modify the institutional structure." (p. 47)

Three levels of analysis are distinguished in this approach. (Figure 6) Intra group, inter group and extra group, that is, macro level social innovations. Intra group social innovations are related to the basic norms, values, rules, habits, and conventions of a given social group. These are based on actions taken inside specific social groups in a certain geographical location. As for inter group social innovations, different social groups are linked in collaborative and/ or competitive relationships. Extra group social innovations are also understood as social movements, hardly ever analysed by innovation scholars, and thus the least understood so far from this angle. As Cajaiba-Santana (2014) concludes: "This perspective, however, does not have the pretention of unifying the field of social innovation around one single paradigm. It suggests that with this approach, we can generate complex descriptions of social innovation processes that we can learn from and expand our mind-set by applying other approaches." (pp. 49–50) This observation is a neat summary of the most important feature of the non-linear models of social innovations. In other words, these approaches do not attempt identifying consecutive 'stages' of an identical (or highly similar) process of social innovations. Rather, the emphasis is on the role of actors (agency) and their motivation (objectives), while stressing the importance of a thorough, rich analysis of the context, in which a given social innovation occurs.

Figure 6: A conceptual model of the social innovation process
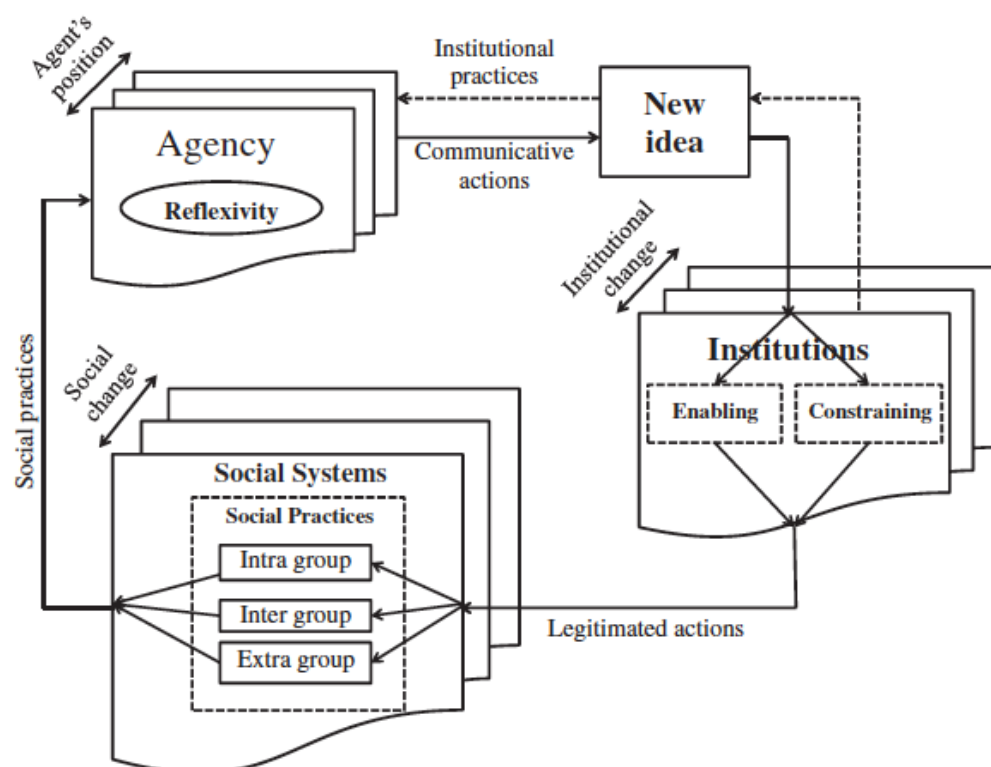
Source: Cajaiba-Santana (2014)

As stressed above, these two non-linear models of social innovation have important strengths. Yet, important factors are not given a sufficient attention in these models, either, especially the diverse types of actors, the types of their interactions, and the types of knowledge (co-)created, exploited and disseminated by these actors. Therefore, a new model of social innovation is presented in the following section.

4 A MULTI-CHANNEL INTERACTIVE LEARNING MODEL OF SOCIAL INNOVATION[9]

4.1 The multi-channel interactive learning model of business innovation

As opposed to the linear models, the multi-channel interactive learning model of business innovation does not intend to describe innovation processes, it does not identify 'stages' or causal links. (Figure 7) Instead, it recognises major actors, the type of knowledge they possess and contribute with to innovation activities, their main types of activities, typical modes of producing, disseminating and utilising knowledge, as well as ways and objectives of co-operation among the major actors, facilitated by various interfaces. In short, this is the micro environment of a given innovation process. Besides that, this model also considers the meso level, that is, the sectoral systems, and the macro environment, composed of the education and training system, the information infrastructure, regulations (and regulators), and the financial system.[10]

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[9] This section draws on section 3 of Havas and Molnár (2020).

[10] The meso level – that is, sectoral systems – is mentioned as part of the macro environment on Figure 7.

This model, as its name suggests, stresses that innovation is an interactive process, in which feedbacks, iterations and collaboration among various partners are crucial, as these partners possess different types of knowledge, which are all indispensable for a successful innovation activity. Hence, this model can be used as a 'focussing device' when analysing an actual business innovation process – not as a description of a 'typical' innovation process.

Figure 7: The multi-channel interactive learning model of business innovation
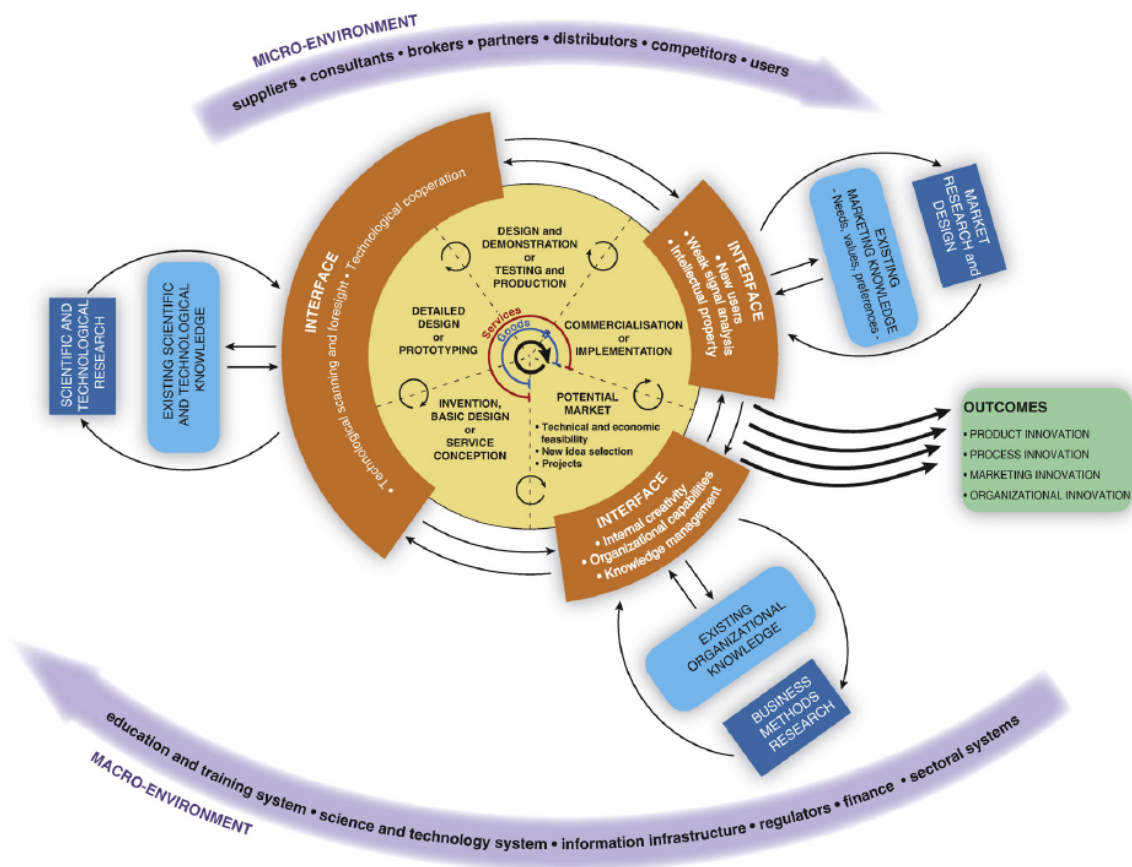
Source: Caraça *et al.* (2009)

4.2 A multi-channel interactive learning model of social innovation

The evolutionary view of innovation posits that innovation is a cumulative, path-dependent, evolutionary process, in which variety generation and selection play major roles. Different types (S&T and practical) and forms of knowledge (codified and tacit) are required for successful innovation. Hence learning capabilities are key to fruitful innovation activities. The required pieces of knowledge are stemming from various sources, possessed by a diverse set of actors. Co-operation among actors – to facilitate knowledge flows, leading to mutual benefits – is, therefore crucial. These observations are highly relevant for analysing social innovation (SI), and thus the multi-channel interactive learning model of innovation seems to be the relevant starting point when devising a model of SI processes.

This new model of SI identifies the potential major actors in an SI process, their main types of activities, typical modes of (co-)producing, disseminating and utilising

knowledge required for social innovation, as well as ways and objectives of co-operation among the major actors, together with the interfaces connecting them.

Generalising the main results of the CrESSI project, we suggest that the reproduction of societal problems, or the possibility to create new societal opportunities are determined by three social forces, that is, institutions ("rules of the game"), networks, and cognitive frames (Molnár and Havas 2019; Ziegler *et al.* 2019). When a societal problem is persistently reproduced, SI practitioners and policy-makers need to take into the interactions of these three social forces: only those social innovations can tackle a societal problem that target all three social forces. (Figure 8) Otherwise, the 'untouched' social force(s) is (are) likely to reproduce a given societal problem in a modified form. (Figure 9)

Figure 8: Reproduction of a societal problem: no intervention
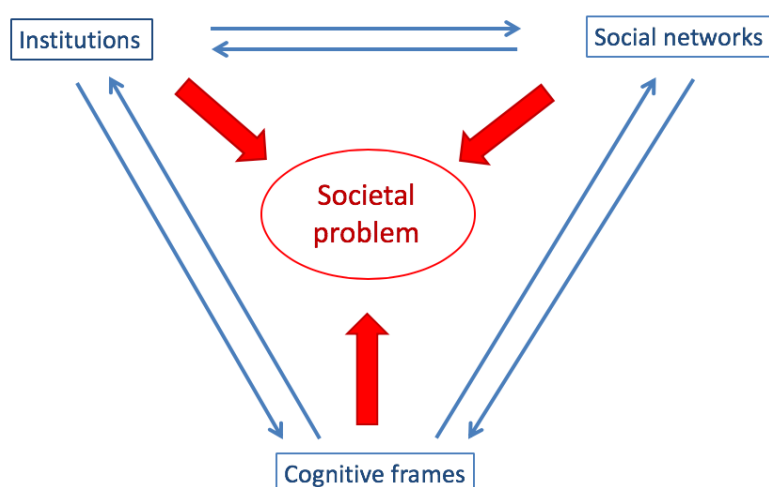
Source: own compilation, drawing on Beckert (2010)

Figure 9: Insufficient, failed social innovation
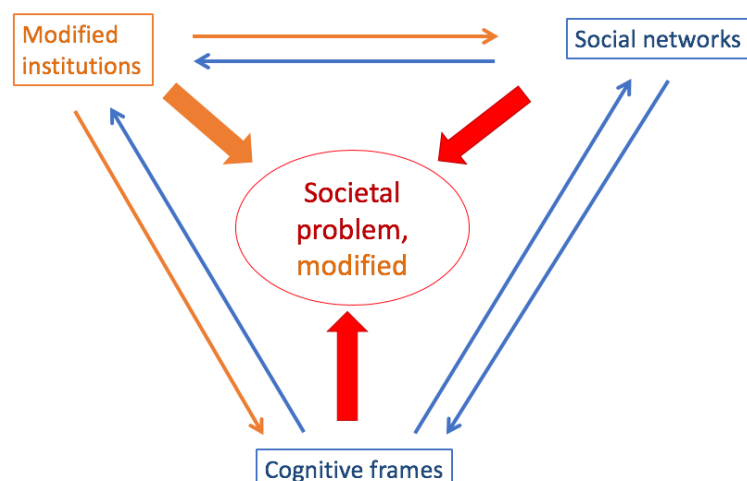
Source: own compilation

A given SI also needs to be sustained, and sufficient funds need to be made available, otherwise the societal problem cannot be tackled, or a new societal opportunity would not be created. These are the typical cases, and causes, of failed, insufficient interventions, using policy language.

In the case of a complex and successful SI, the societal problem is alleviated or significantly eased, but most likely new problems emerge at the same time, either as a direct consequence of a given SI (e.g. the relative or absolute position of those social groups that were not among the beneficiaries of this given SI might deteriorate), or given the changes in the social forces, irrespective of the given SI. As for SIs aimed at tackling marginalisation or transformative SIs,[11] a meaningful qualitative indicator of success would be the empowerment effect of a given SI.

SIs aimed at creating new societal opportunities might also fail for similar reasons (efforts are not complex and sustained, resources are insufficient). When such a SI is successful, new societal problems might also occur, especially as the relative or absolute position of those social groups that cannot enjoy the advantages offered by the new societal opportunity created by this SI is likely to deteriorate.

Following this way of thinking about the ways and constraints to tackle societal problems, we put these problems into the centre of our multi-channel interactive learning model of social innovation.[12] This is a major difference compared to the multi-channel interactive learning model of business innovation (MILMoBI), where innovation activities are in the centre.

There are three main reasons for this modification. The *first* one is a trivial one: there is a fundamental difference between business and social innovations. The former ones are aimed at achieving a business objective, while the latter ones intend to tackle a societal problem or create new societal opportunities. *Second*, given the longer tradition of thorough analyses of business innovation, and thus the emergence of a widely – though not universally – accepted definition of business innovations, it has been possible to identify the key types of innovation activities. Even so, this model only considers activities needed for product and service innovations, and thus activities leading to other important types of business innovations, in particular market, process, organisational, and business model innovations are not listed. Some of these innovations are mentioned among the outcomes, but only among the outcomes, without explicitly considering the activities needed for these types of business innovations. The reason is likely to be the diversity of these other types of business innovations, which require an even wider set of activities. Clearly, it would be a rather demanding task to identify all these activities – or at least the most important ones. This applies *a fortiori* to social innovations. Thus, *third*, we do not attempt to compile a list of activities required for SIs – at least not at this stage of our own work and at the current state-of arts of SI research.[13] [14]

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[11] "We conceptualise transformative social innovation (TSI) as social innovation that challenges, alters or replaces dominant institutions in the social context (…). In our understanding, such transformative change is an emergent outcome of co-evolutionary interactions between changing paradigms and mental models, political institutions, physical structures and innovative developments on the ground. Transformative change results from a specific interaction between game-changers, narratives of change, system innovation, and social innovation, as distinct but intertwined shades of innovation and change, each of which has a specific potential to challenge, alter and/or replace dominant institutions." (Avelino *et al.*, 2019: 198)

[12] Lawrance *et al.* (2014) also put the societal problem into the centre of their "theoretical framework for the study of managing social innovation" (Figure 16.1). They, however, do not consider explicitly either the actors, their activities and interactions, or the types of knowledge (co)-created, used, and disseminated in SI processes as that framework serves a different analytical purpose.

[13] Just to recall an important fact, there is no widely accepted definition of SI yet.

[14] At a rather high level of abstraction, and only for SIs aimed at tackling poverty alleviation, we can compile a preliminary list of necessary activities, more precisely, the goals of a diverse set of activities:

We also need to consider the micro and macro environment of an SI – just as in the MILMoBI –, composed of the education and training system, the cognitive frames on social innovations, the policy governance system for social innovations, the information infrastructure available for social innovators, regulations (and regulators) affecting social innovations, and the funding opportunities for social innovations. (Figure 10)

Figure 10: The multi-channel interactive learning model of social innovation
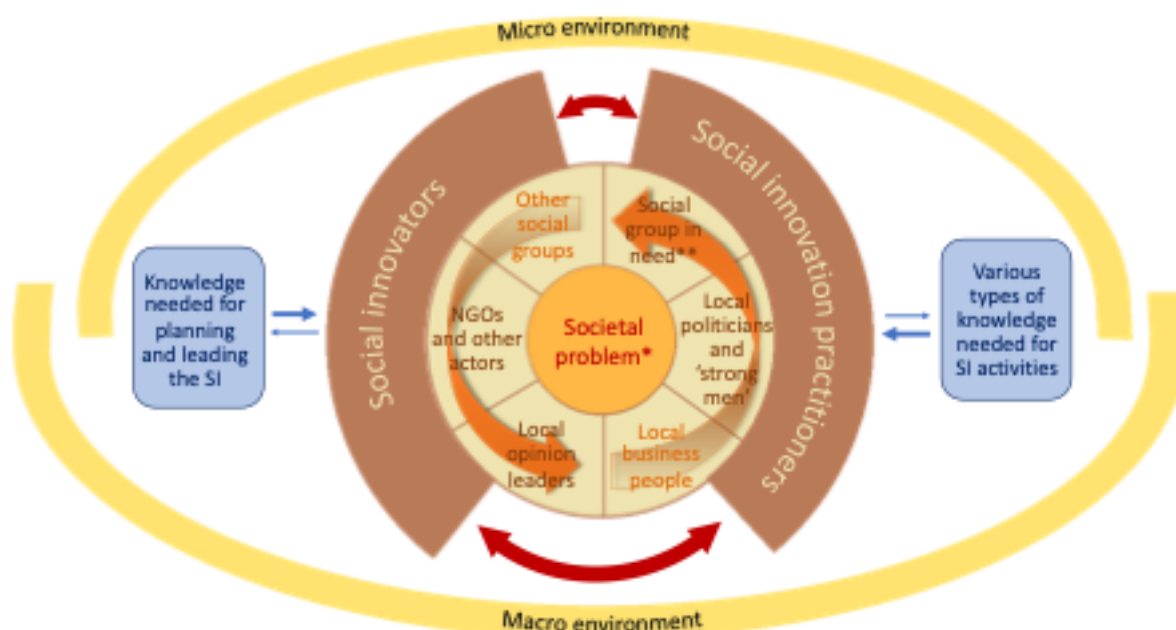
Source: own compilation, with able technical assistance of Fanni Tóth

Notes: * or new societal opportunity; ** potential beneficiaries of a new societal opportunity

Clearly, both the macro and the micro environment affect a given SI and all its actors, but this is not indicated by arrows in Figure 10 to keep it relatively simple.

The main building blocks of the proposed new model of SI are (i) the actors involved in, or affecting, SI; (ii) the types of interactions among the actors; (iii) the types of knowledge (co-)created, exchanged and utilised for, or during, a SI process; (iv) the institutions governing the interactions among the actors, the flow of knowledge, funds and other resources; (v) the relevant social networks; and (vi) the cognitive frames of the actors.

In more detail, we need to consider the following types of actors when analysing a given SI process:

- the social group in need (affected by the given problem) or a potential beneficiary of a new societal opportunity, and thus 'targeted' by, or initiating, a given SI
- other social groups that could be potentially 'targeted' by, or initiating, SI
- social innovators: architects and/or leaders of a SI initiative

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activities to (i) build trust among the SI practitioners and the social group affected by the societal problem; (ii) change the relevant institutions, social networks, and cognitive frames of all the crucial actors (on the problem to be tackled, on themselves, on the given SI, ...); (iii) empower the social group affected, e.g. by strengthening their capabilities, fighting learned helplessness; (iv) change the local power structure – and possibly those at higher levels, too.

- other SI practitioners involved, e.g. staff members, volunteers
- local politicians and other decision-makers: 'strong men' in general
- non-affected, or only indirectly affected social groups
- local business people
- NGOs
- local opinion leaders, both within and outside the affected social group
- media (both local and national).

Politicians and other decision-makers play a decisive role in setting the formal rules, but also influence the emergence and use of informal rules, at all levels: micro, meso, and macro. Other actors can also influence the relevant institutions.

Cognitive frames are mainly shaped by opinion leaders, but indirectly also by politicians, SI practitioners, NGOs, and the legacy of previous generations.

NGOs and local political and business decision-makers are key actors in building, operating and changing social networks, but other types of actors also play their role.

Clearly, all the three social forces interact with each other, e.g., the cognitive frames influence what formal and informal rules are set and how these are applied, as well as how social networks evolve. In turn, social networks have an impact on who are involved in setting the 'rules of the game', how these rules are applied, and thus evolving, in practice, as well as on the evolution, propagation and 'perpetuation' of cognitive frames.[15]

As for the types of possible interactions among the actors, we need to consider the following ones when analysing a given SI process:
- hierarchical vs. reciprocal
- market vs. non-market
- formal vs. informal
- discussing opinions on major societal issues, factors influencing the given societal problem
- knowledge exchange, co-production of knowledge.

For example, politicians and other decision-makers are likely to prefer entering into hierarchical interactions with the actors, while SI practitioners and NGOs typically build and maintain reciprocal interactions. Business people have pecuniary/business interactions with the other actors, whereas social groups, SI practitioners and NGOs keep societal interactions, occasionally with some pecuniary elements. All actors have both formal and informal interactions with the other types of actors, but the "weight" of formal and informal interactions is likely to vary by actors. All actors are involved in knowledge exchange, co-production of knowledge, although play a different role, and contribute with different types of knowledge to these processes.

As already hinted at, these interactions among the key actors influence how the relevant institutions are set and applied, how social networks evolve, as well as how cognitive frames are formed. In turn, these three social forces influence the interactions among the actors.

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[15] The interactions among the three social forces are analysed in more detail in sub-section 4.2, when a real-life case is presented.

As for the types of knowledge generated, exchanged and utilised for or during a SI process, we need to consider the following ones when analysing a given SI process:

- codified vs. tacit
- scientific vs. practical
- the content or "substance": for what purpose, in what type of activity these pieces of knowledge can be utilised, e.g. social, political, economic, technological.[16]

The relevant cognitive frames are likely to be different not only by the type of actors, but also by their "subject". Hence, we need to consider the following types of cognitive frames when analysing a given SI process:

- Cognitive frames of the social group affected by the given problem
  - about themselves
  - about the environment
  - about the (planned, proposed or introduced) social innovation
- Cognitive frames of the environment in which the affected group sits
  - about the affected social group
  - about the (planned, proposed or introduced) social innovation
  - about itself
- Cognitive frames of the SI practitioners
  - about the affected social group
  - about the environment in which the affected group sits
  - about themselves.

Institutions, social networks, and cognitive frames of the actors – taking these three factors separately, as well as in their interactions – are decisive in business innovation processes, too. Yet, only the first two of these factors are considered explicitly in the literature on business innovation. Partially, and somewhat indirectly, cognitive frames are also considered, though, when the subjects of analysis are innovation strategies, perception of innovations by actual or potential customers (users), the mindset of policy-makers, or the rationales for policy measures, including regulations.

Two types of actors play a distinctive, crucial role: social innovators, that is, the architects and/or leaders of a SI initiative, together with the other SI practitioners act as an interface and a bridge between a given SI and its micro and macro environment. That is why they are depicted separately in Figure 10, at the 'periphery' of the 'circle' composed of the other SI actors.

For the sake of simplicity, the major elements of the micro and macro environment of an SI are not detailed in Figure 10, rather, these are listed in Figure 11.

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[16] Learning is also considered in Cajaiba-Santana's „schematic conceptual model of the social innovation process" under the term of "reflexivity", but in a less detailed manner. (Cajaiba-Santana 2014: Fig. 1)

Figure 11: The main elements of the micro and macro environment of a social innovation

Macro environment	Micro environment
relevant policies	personal connections
education system	schools
municipal system	power structures
labour market	job opportunities
social care	social care (local)
public opinion	public opinion (local)
national media	local media
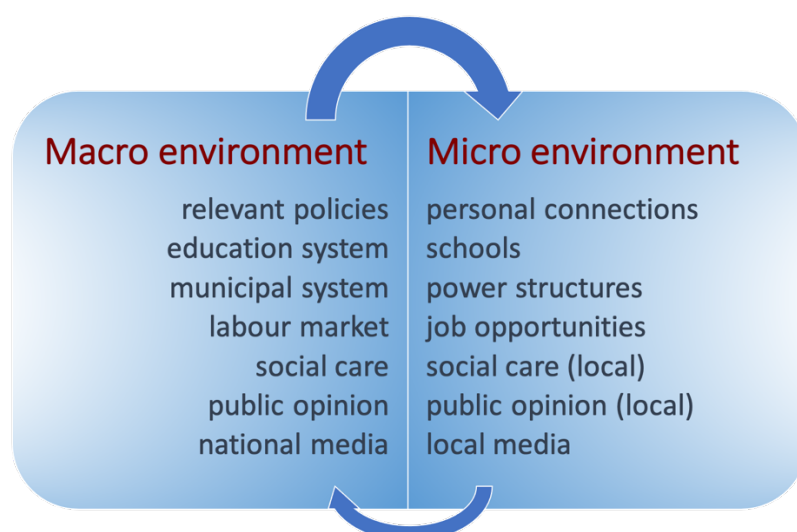
Source: own compilation

5 CONCLUSIONS

The paper has proposed a new understanding of social innovation as

- novel solutions or novel combinations of known solutions to tackle societal problems or create new societal opportunities
- an interactive learning process, in which solutions are devised and introduced by various actors: those who are in need, or can benefit from the new opportunities, "external" SI practitioners, or jointly by these actors

This new understanding of SI would be equally relevant for analysts, practitioners, and policy-makers.

The paper has proposed a new, multi-channel interactive model of SI. Given the diversity of actors involved, of the types and sources of knowledge generated, diffused and exploited, as well as of types of interactions among the actors in SI processes, this model is more relevant than the 'stage' – or linear – models of SI.

This model can be used as a focussing device, not as a descriptive, 'stage model'. It identifies the potential major actors in a social innovation process, typical modes of (co-)producing, disseminating and utilising knowledge required for social innovation, as well as ways and objectives of co-operation among the major actors. It also considers the micro, meso, and macro environment of social innovation, composed of the education and training system, the cognitive frame of various actors on social innovations, the policy governance system for social innovations, regulations (and regulators) affecting social innovations, and the funding opportunities for social innovations.

The model can assist social innovation policy-makers, policy analysts and guide practitioners when devising and implementing social innovations. Most importantly, social innovation – just as business innovation – is a cumulative, path-dependent and interactive process involving different types of actors whose knowledge and accumulated experience are crucial for the successful introduction of new solutions.

Implementing – especially diffusing – these new solutions are learning and adjustment processes: accumulating experience of a given SI process – including systematically sought feedbacks from participants – needs to be analysed and reflected upon continuously, most likely leading to modified internal rules and methods. The likely changes in external circumstances, especially the regulatory environment, also require flexibility from SI practitioners.

Social innovation policy-making also needs to be understood as a learning process. The usually rigid support schemes need to be eased to allow for more flexible implementation of SI initiatives without compromising the original, fundamental policy objectives.

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Table A1: Further examples of SI definitions assuming positive impacts

Authors	Year	Definition
Murray, Caulier-Grice and Mulgan	2010	Social innovations are new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations.
Howaldt and Schwarz	2010	A social innovation is new combination and/or new configuration of social practices in certain areas of action or social contexts prompted by certain actors or constellations of actors in an intentional targeted manner with the goal of better satisfying or answering needs and problems than is possible on the basis of established practices. An innovation is therefore social to the extent that it, conveyed by the market or "non/without profit", is socially accepted and diffused widely throughout society or in certain societal sub-areas, transformed depending on circumstances and ultimately institutionalized as new social practice or made routine.
BEPA	2011	Social innovations are innovations that are social in both their ends and their means. Specifically, [...] social innovations [are] new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations. They are innovations that are not only good for society but also enhance society's capacity to act
Neumeier	2012	Social innovations can be generally understood as a change in the attitudes, behaviour or perceptions of a group of people joined in a network of aligned interests that, in relation to the group's horizon of experiences, leads to new and improved ways of collaborative action in the group and beyond.

Source: own compilation