SI-DRIVE
Social Innovation: Driving Force of Social Change

TOWARDS A GENERAL THEORY AND TYPOLOGY OF SOCIAL INNOVATION

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1 INTRODUCTION: THE GROWING IMPORTANCE OF SOCIAL INNOVATION

Jürgen Howaldt (TUDO), Antonius Schröder (TUDO)

The importance of Social Innovation for successfully addressing the social, economic, political and environmental challenges of the 21st century has been recognised not only within the Europe 2020 Strategy but also on a global scale. So, "in recent years, social innovation has become increasingly influential in both scholarship and policy" (Moulaert et al. 2013, p. 1). This boom of Social Innovation is not only proven by its growing importance in public discussions but also by its supposed potential for solving recent and upcoming challenges (e.g. refugee relief, economic and financial crises, unemployment) and the increasing number of (public) programmes initiating and supporting social innovations on the local, regional, national and global level (see also the SI-DRIVE Policy Field Reports: Schröder et al. 2017; Oeij et al. 2017; Schartinger et al. 2017; Ooms et al. 2017; Butzin et al. 2017; Heales et al. 2017; Millard et al. 2017).

A new innovation paradigm

International innovation research is providing numerous indications of a *fundamental shift in the innovation paradigm* (Howaldt et al. 2014, pp.145). This new understanding of innovation is characterized by three key characteristics: (1) the innovation process being opened up to society, (2) its orientation by the major societal challenges, and (3) a stronger recognition of non-technological innovations geared to changing social practices (see FORA 2010; Howaldt/Schwarz 2010).

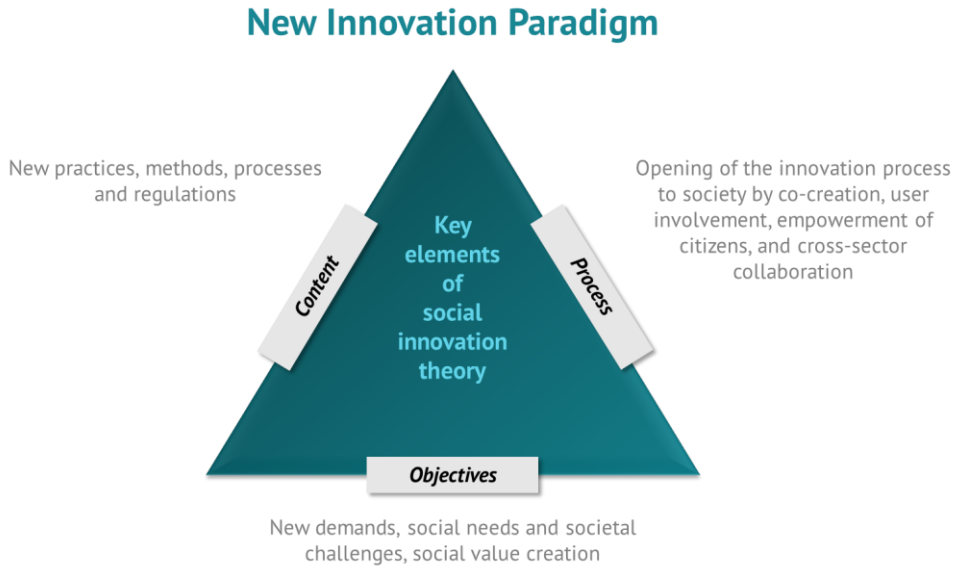

Figure 1: New Innovation Paradigm

With *innovation processes* opening up to society, companies, technical schools and research institutes are no longer the only relevant agents. Citizens and customers no longer serve as suppliers of information about their needs (as in traditional innovation management); they make additional contributions to the process of developing new products to resolve existing problems; empowerment of citizens becomes a relevant part of the innovation process. Terms and concepts such as open innovation, customer integration and networks represent different aspects of this development. At the same time, innovation – based on economic development – becomes a general social phenomenon that increasingly influences and permeates every aspect of life.

The second characteristic, the innovation process' *orientation to the major societal challenges*, is reflected by the programmatic European research and innovation policy, which has developed a new perspective on innovation since the beginning of the 1990s. Meanwhile, large parts of the European support programmes as well as national

initiatives, such as the German high-tech Strategy are structured in accordance with the major societal challenges (European Commission 2015; BMBF 2014).

Finally, with the emergence of this new innovation paradigm, it is not only the perspective on innovation processes and their integration in societal structures and processes that has changed, but also the *object of innovation*. At the heart of the innovation paradigm of the industrial society we find technical innovations relating to products and processes that "are regarded as (almost) the only hope of societal development" (Gillwald 2000).

Social innovations are confronted with enormous expectations of providing answers to *wicked societal problems*, given the fact that issues such as massive unemployment, the erosion of the social security system or the intensification of ecological risks cannot be overcome without implementing Social Innovation. In light of the financial and economic crises, it is becoming increasingly clear that social innovations, as they relate to extensive change in both, the leading cultures that influence behaviour as well as the social practices in the economy and consumption, determine "in what sort of world the next generation of the citizens of free societies will be living" (Dahrendorf 2009).

The Europe 2020 Strategy as well as its specific Flagship Initiatives recognise these challenges. The Flagship Initiative on the Innovation Union clearly stipulates the importance of Social Innovation in order to successfully cope with the abovementioned challenges. Similar to the European Commission (EC), many governments of European member states, other states (e.g. Australia, Canada, China, Colombia, New Zealand, and the USA) and UN Organisations acknowledge Social Innovation as essential to ameliorate future innovation policies. This trend stresses the need for a fundamental broadening of perspective. Thus, the *Vienna Declaration* (2011) states: *"The most urgent and important innovations in the 21st century will take place in the social field. This opens up the necessity as well as possibilities for Social Sciences and Humanities to find new roles and relevance by generating knowledge applicable to new dynamics and structures of contemporary and future societies."*

The missing link – a comprehensive concept of Social Innovation

However, despite the growing perception of social innovations' relevance, a sustained and systematic analysis of Social Innovation, its concepts, characteristics and impacts, has been largely missing. A plethora of vastly diverging subject matters and problem dimensions as well as expectations for resolving them have been subsumed under the heading Social Innovation - without appropriate distinctions being made between the various social and economic implications, the conditions governing its inception, its genesis and diffusion, and without clearly distinguishing it from other forms of innovation). Thus, in their analysis of European projects of recent years, Jane Jenson and Denis Harrisson came to the following conclusion: "Although social innovations pop up in many areas and policies and in many disguises, and Social Innovation is researched from a number of theoretical and methodological angles, the conditions under which social innovations develop, flourish and sustain and finally lead to societal change are not yet fully understood both in political and academic circles." (Jenson/Harrisson 2013, p.7).

The objectives of the SI-DRIVE project

Against this background, the global research project SI-DRIVE, funded within the 7th Framework Programme of the European Commission, looked at the theoretical concepts, areas of empirical research and observable trends in the field of Social Innovation, on both European and global scales. It refers to socio-scientific innovation research and is contributing to the development and spread of an advanced and more comprehensive notion of innovation.

SI-DRIVE involved 14 partners from 11 EU Member States and 11 partners from other states of all continents, accompanied by 13 advisory board members, all in all covering 30 countries all over the world. The approach adopted carefully interlinks the research process to both the complexity of the topic and the project workflow. The project will explicitly link to and cooperate with existing EU and (international) projects, dissemination platforms and networks.

The key objectives were:

- to determine the nature, characteristics and impacts of Social Innovation as key elements of a new innovation paradigm (strengthening the theoretical and empirical base of Social Innovation as part of a wider concept of innovation that thoroughly integrates social dimensions),
- to map, analyse and promote social innovations in Europe and different world regions in order to better understand and enable social innovations and their capacity for changing societies,
- to identify and assess success factors of Social Innovation in seven particular policy areas, supporting reciprocal empowerment in various countries and social groups to engage in Social Innovation for development, working towards Europe 2020 targets and sustainable development (e.g. Millennium Development Goals (MDG) and Sustainable Development Goals (SDG)), and finally
- to undertake future-oriented policy-driven research, analyse the barriers and drivers for Social Innovation; develop empirical based policy recommendations to improve policy strategies and interventions.

The theoretical assertions and improvements have been applied, tested and constantly developed by means of sound empirical data and case studies in seven major policy areas: Education and Lifelong Learning, Employment, Environment and Climate Change, Energy, Transport and Mobility, Health and Social Care, Poverty Reduction and Sustainable Development.

The core of the empirical research consisted of comparisons between social innovation initiatives in different world regions and countries, taking into account their respective cultural and historical contexts. Based on a comprehensive definition of Social Innovation opening research to the whole variety of social innovation initiatives, the experts involved in SI-DRIVE (partners and advisory board members) gathered projects and initiatives understood as social innovations in the different world regions and policy fields (for a detailed description of the methodology see Schröder et al. 2018). Comparing the therewith mapped wide variety of social innovation initiatives and projects (published in the "Atlas of Social Innovation" (Howaldt et al. 2018) allowed us making recommendations for initiating, developing, supporting, scaling up and diffusing Social Innovation.

Theory development and empirical research have built on existing innovation research, explicitly including studies on technological and business innovation (Howaldt et al. 2014). This is particularly important as in the Social Innovation discourse, often more emphasis is placed on exploring new concepts and less on exploiting proven ones. To better understand the conditions under which social innovations "develop, flourish and sustain and finally lead to societal change" (Jenson/Harrisson 2013, p.7), it was also necessary to verify theories of social change and their relation and relevance for social innovations (Howaldt/Schwarz 2016). Only on this basis have we been able to understand the conditions under which transformative change in a broader system may be produced (Moore/Westley 2011).

Major results of the project: Increasing importance of Social Innovation

The results of the theoretical and empirical work of the SI-DRIVE project reveal the relevance of Social Innovation in addressing societal challenges of the 21st century on a global scale. At the same time, there is an increased awareness about the dimension of the challenges modern societies are facing as well as the complexity of the innovation processes required to resolve them. *Social innovations* require specific conditions due to their aim of activating, fostering, and utilizing the full *innovation potential of the whole society*.

The success of social innovations hinges not only on appropriate funding but also on participation and collaboration structures, co-creation and user involvement, empowerment and human resources development. Attention has to be paid to the invention and its development as well as its diffusion and imitation. From this innovation process and development perspective, resources, capabilities and constraints, drivers and barriers are not only relevant for the invention and implementation, but also for the scaling and diffusion of successful innovations.

While the development of technological innovation is a dynamic process, motivated by exploiting the possibilities of new technologies, Social Innovation processes usually are set into motion to primarily provide added social value. The main motivation and trigger for starting, initiating and running a social innovation is the need to respond to a specific societal challenge or a local social demand. Looking at the concrete drivers of

social innovations identified, by far individual persons, groups and networks are the main and most important forces for driving social innovations. That implies that the initiatives and their sustainability are *highly dependent on these actors*, all the more so since many social innovation initiatives are not embedded in public innovation programmes yet. Additionally, it has to be stressed that – unlike in the case of technological innovation – science and research do not play as much a relevant role as a trigger or driver (as underlined by the low number of universities and research institutions involved in initiatives as partners).

Given the strong need for Social Innovation highlighted by the various policy field experts, one of the most important insights of the empirical results is that a Social Innovation friendly environment still has to be developed in Europe and on a global scale. The mapping demonstrates that Social Innovation processes and the underlying resources, capabilities and constraints are also very much related to the actors of the different sectors of the Social Innovation ecosystem. This implies a new role of public policy and government in creating suitable framework and support structures, the integration of resources by the economy and civil society, as well as supporting measures by science and universities (e.g. education for Social Innovation performance, know-how transfer).

Under construction: a theoretically sound concept of social innovation

In light of the increasing importance of Social Innovation, SI-DRIVE emphasises the development of a theoretically sound concept of Social Innovation as a precondition to an integrated theory of innovation which considers social, business, public sector and technological innovation. This is also a precondition for a comprehensive Social Innovation policy.

There is a need for

- a shared understanding of Social Innovation,
- a clear differentiation from other concepts (such as social entrepreneurship or technology innovation) and
- an integration of Social Innovation in a comprehensive innovation policy.

SI-DRIVE provided an *overview of the current state of international research on Social Innovation* and its contribution to the expansion of the innovative capabilities of modern societies as well as resolving key challenges facing society. It is based on a *theoretically sound concept of Social Innovation*. Defining Social Innovation as a new combination or figuration of social practices allows integrating the many different (and sometimes conflicting) meanings of Social Innovation and offers a new perspective on the diversity of the concept of social innovation. This also opens for a better understanding of the relationship between social and technology innovation and lays the foundation for further scientific research.

The final report

Based on the theoretical and empirical research, the objective of this final report is to deliver building blocks for a general theory of social innovation. Using the inputs of theoretical and empirical work of the project this task will provide a comprehensive architecture for understanding and discussing Social Innovation concepts, processes and impact. This framework is novel in its explicit consideration of different dimensions and the comprehensive complexity of Social Innovation.

The theoretical framework of SI-DRIVE is characterised by the following central elements, structuring and guiding the empirical work:

1. The comprehensive **definition of Social Innovation** is focusing on **"new social practices"** (Howaldt et al. 2016, p.4; see Chapter 2)
2. The operationalization of the definition of Social Innovation via **five key dimensions:** Concepts and understanding; addressed societal needs and demands; actors and networks; resources, constraints and capabilities; process dynamics (see Chapter 2).
3. The differentiating between **different levels of Social Innovation:** the macro level of policy fields and the meso level of "*practice fields*" and related "projects/initiatives" (micro level) (see Chapter 6).

4. The **various roles of a wide range of actors** which fluctuate across different levels and the lifecycle of innovations (Chapter 5), including the **role of policy** as an important barrier or enabler for Social Innovation (see Dhondt et al. 2017).
5. **Empowerment and human resources** and other presuppositions as well as appropriate infrastructures for the development and diffusion of social innovations, because social innovations are depending on *specific conditions* as they aim at activating, fostering, and utilizing the *innovation potential of the whole society* (Chapter 4).
6. The **importance of complex and dynamic ecosystems** which include a continuously negotiated relationship between "the new" and "the existing" (Chapter 5).
7. The **mechanisms of social change**: learning, variation, selection, conflict, competition, cooperation, tension and adaption, diffusion, planning and institutionalisation of change (Chapter 3).

Based on the theoretical framework and its main elements, empirical research was done in an iterative way (see figure below), building the empirical background also for this report by mainly four research activities:

1. State-of-the Art Reports of the seven policy fields, Regional Report of twelve world regions involved in SI-DRIVE (beneath Western, Eastern, Northern and Southern Europe including Australia/New Zealand, Western and South-East Asia, North and South Africa, North and South America, Russia).
2. Global Mapping of 1,005 social innovation initiatives all over the world (Mapping 1)
3. 82 in-depth case studies (Mapping 2).
4. 16 policy and foresight workshops (2 international round tables and 14 policy field workshops).

The empirical phases with their different research methods are embedded in the SI-DRIVE *cyclical approach* in the form of a double *iteration loop* continuously improving theory, methodology and policy after the empirical stages. Starting with a first theoretical and methodological as well with a first policy and foresight framework, this was laying the ground for the contents and methods of the first empirical phase. The empirical results fed the improvement of these three pillars, laying the ground for the second empirical phase: the in-depth case studies. In the end, the results of both empirical phases lead to the final theoretical and methodological frame as well as to final policy and foresight recommendations of SI-DRIVE.

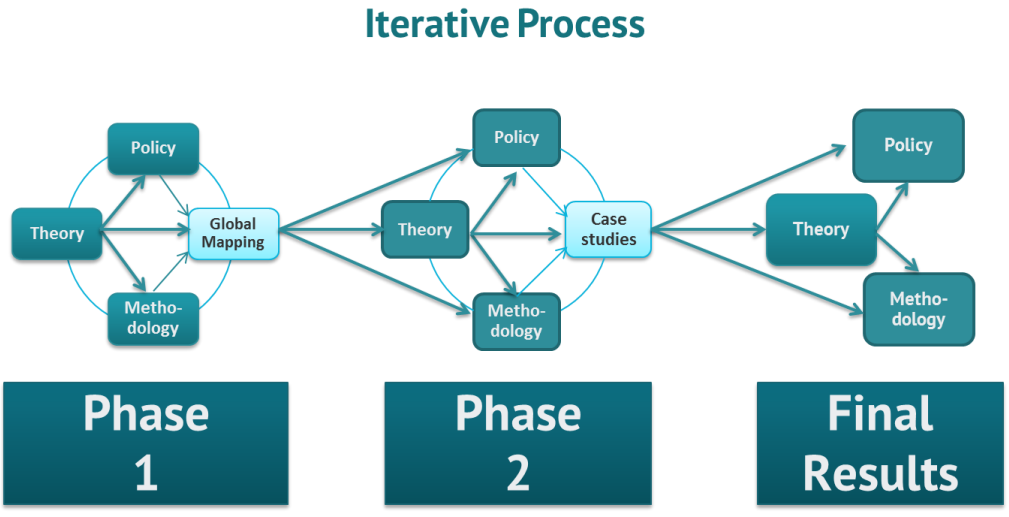

Figure 2: Iterative SI-DRIVE approach

The main structuring element for the empirical research (and also for this report) are the five key dimensions of Social Innovation – "Concepts and Understanding", "Societal Needs and Challenges", "Resources, Capabilities and Constraints", "Actors, Networks and Governance", "Process Dynamics", which have been defined in the Critical Literature Review of SI-DRIVE (Howaldt et al. 2014); affecting the potential of Social Innovation, their scope and their impact.

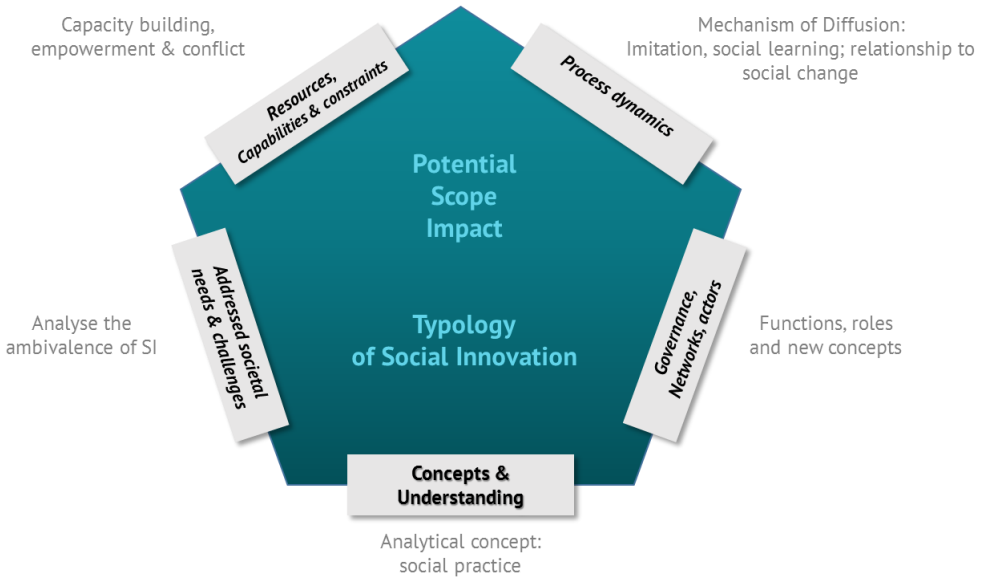

Figure 3: Key Dimensions

On this basis, this report summarises the key findings of the theoretical and empirical work of SI-DRIVE.

The subsequent chapters are structured as follows:

1. Each chapter will provide (a) a background introduction describing the starting point and the research objectives (b) an overview of the results based on the empirical and theoretical work and their interpretation as well as (c) an outlook including open questions to be answered in the upcoming research projects.
2. Having the defined purpose of the theory report in mind, results and interpretations will (a) explore key issues that are pertinent to the support/success or detriment/failure of social innovation initiatives, (b) start outlining possible trends that will shape the future of Social Innovation in the respective areas. These are the underlying orientations of the analysis.
3. The seven policy fields are considered as an overarching analytical category relevant in all five key dimensions as are the world regions. All the empirical results are represented in this comparative analysis, including in-depth analyses of the policy field results and the outcomes of the policy and foresight workshops.

In sum, this report will discuss building blocks for a general theory of Social Innovation and provide a comprehensive architecture for understanding and discussing Social Innovation concepts, implementations, processes and impacts. It delivers insights based on a theoretically sound understanding of the relationship between Social Innovation and social change. At the same time, it will discuss different typologies of social innovations and will provide novel insights into the success factors as well as barriers.

Social innovation requires appropriate *Social Innovation policies*. The traditional framework for public administration of rules and regulations needs new ways of giving leeway for new ideas and methods. Many potential social innovations (ideas) are hindered by too rigid traditional approaches in public policies. If Europe wants to tackle the challenges, as documented in its Strategy for Smart, Inclusive and Sustainable Growth as well as its specific Flagship Initiatives, policy makers need to understand how to involve and make use of citizen participation in order to serve the public good (Bourgon 2011). Based on integration of conceptual and empirical knowledge presented in this report, SI-DRIVE also offers coherent policy strategies and recommendations, using platforms for policy makers (workshops, round tables and fora) to discuss the contours of a comprehensive innovation policy.

2 CONCEPTS AND UNDERSTANDING OF SOCIAL INNOVATION

Jürgen Howaldt (TUDO), Josef Hochgerner (ZSI)

2.1 INTRODUCTION

This chapter provides insight into the first and basic dimension of SI-DRIVE's pentagram and therewith lays the ground for the analysis of the other four key dimensions (chapters 3 to 6). It can be considered as a kind of "extractive distillation" of the core aspects forming the general concept and understanding of Social Innovation. It further serves as basis for the discussion of different typologies of Social Innovation (Chapter 7) and a better understanding of the relationship between Social Innovation and Social Change (Chapter 8).

In light of the increasing importance of Social Innovation, the development of a theoretically sound concept is an important challenge in order to unfold the potential of Social Innovation. Defining Social Innovation as a new combination or figuration of social practices allows integrating the many different (and sometimes conflicting) meanings of Social Innovation and offers a new perspective on the diversity of the concept. Moreover, it provides an opportunity to develop a better understanding of the relationship between Social and Technology Innovation and lays the foundation for further scientific research.

2.2 STATE OF THE ART

The Critical Literature Review (Howaldt et al. 2014) and the global mapping (Howaldt et al. 2016 and 2016a) *underpinned the underdeveloped status of conceptualisation (and institutionalisation) of Social Innovation*. There is no shared understanding of Social Innovation (including a clear differentiation from other concepts such as social entrepreneurship or business innovation based on new technologies, organisational features and marketing models) and no integration of Social Innovation in a comprehensive innovation policy (Howaldt et al. 2014).

A long history of Social Innovation research

This is at first sight surprising, especially if one takes into account that the term Social Innovation can be traced back to the early 19th century, long before technological-economic connotations determined the common understanding of innovation. Semantically, from the outset, they were closely linked to processes of social transformation as specific forms of Social Change. Without their content being precisely defined, they were widely used, primarily in Britain and France, with both a positive but also a negative connotation in discourses about a socialist transformation. The main focus was on the fundamental transformation of the social system and its support structures: in other words, the transformation of the order and institutional structure of the society as a whole. Later it becomes associated with social reforms taking place, especially in the areas of education and work (Godin 2012). At the end of the 19th, beginning of the 20th century, a new meaning of the term emerged: Social Innovation as the advent or adoption of a new behaviour or a new practice. These practices encompass all areas of society, such as gender relations, formal and informal education, management, governance as well as everyday life, established habits and cultural customs. The term tends to become a universal label for describing any social phenomena and processes of change (Godin 2012, pp. 21). In the 1960s, the concept of Social Innovation is used in a social-technological way for the first time, relating it to the search for alternative solutions for social problems and with the help of scientific methods (Fairweather 1967).

As a discipline, innovation research widely finds its systematic beginnings and points of reference, valid to this day, in Schumpeter's 1912 publication of "Theorie der wirtschaftlichen Entwicklung" [Theory of economic development] (Schumpeter 1964), in which a definition of innovation is introduced. According to this work, economic development takes place as a permanent process of "creative destruction". What propels this dynamic, the impetus and origin of economic fluctuation, is innovation in the sense of the "execution of new combinations", of "establishing a new production function". Inventions become innovations if they successfully take hold on the market (diffusion). Introducing and realising innovations is the actual work and function of entrepreneurship. Schumpeter not only focuses on technological innovation, but distinguishes between product-

related, procedural and organizational innovations, using new resources, and tapping new markets. He also addresses the process of innovation. Moreover, he emphasises the necessity for Social Innovation, occurring in the economic arena as well as in culture, politics and a society's way of life, in order to guarantee the economic efficacy of technological innovations.

Since Schumpeter, the concept of innovation has focused predominantly on economic and technological developments, whereas social sciences were particularly interested in the corresponding social processes and effects (Harrisson 2012). Remarks on Social Innovation in literature after Schumpeter are scarce and only marginal (Moulaert et al. 2005). Innovation research in the social sciences has been dedicated, by contrast, primarily to the relevance of innovation's social framework conditions. The central focus rests on the social preconditions and influencing factors for (predominantly) technological innovations, the correlation between the technological and the social, between technological and social innovations, between innovations and societal development, the institutional context and the interaction between those involved in the processes of innovation.

Technological innovations are elements of this continuous process and, due to the predominant patterns of imitation and invention, have become the centre of attention (Howaldt/Schwarz 2010; Hochgerner 2013). They represent a special type of inventions, and taking the form of artefacts (e.g. machines, computers, cars). The belief in the central role of science and technologies is still the basis for contemporary innovation policies and the discourse on National Innovation Systems (Edequist 2015).

Meanwhile, the importance of Social Innovation in successfully addressing social, economic, political and environmental challenges of the 21st century has been recognized not only within the Europe 2020 strategy, but on a global scale as well (see the manifold contributions in Harrisson et al. 2009; Franz et al. 2012 and Moulaert et al. 2013).

Due to expanding and dramatic new social demands, reinforced by the challenges of globalisation, population growth, conflicts, wars and – not least – climate change and global warming, the need for *social* measures of all types rockets high. Since many of these measures necessarily have to have novel properties, it seems likely to highlight their innovative character by using the term *Social Innovation*. However, emphasis usually is on "social", not (in the full sense of the term) on "innovation", as it is clearly expressed in the following quote from the European Commission:

> *"Social Innovation can be defined as the development and implementation of new ideas (products, services and models) to meet social needs and create new social relationships or collaborations. It represents new responses to pressing social demands, which affect the process of social interactions. It is aimed at improving human well-being. Social innovations are innovations that are social in both their ends and their means. They are innovations that are not only good for society but also enhance individuals' capacity to act."*
> (European Commission 2013, p. 6)

Actually, this constitute a description of broadly common features of what is called Social Innovation rather than a scientific definition that would need to understand Social Innovation as one of the forms of a comprehensive concept of innovation – with different features other than business (technology) innovation. It may be considered and accepted as a pragmatic approach to the topic and helps to identify measures meant to solve social problems, to meet societal challenges or even enable systemic change (see BEPA 2010). Yet, there are limits to clear definitions when it comes to the question, what distinguishes Social Innovation from other forms of innovation.

Desperately seeking - a theoretically sound concept of Social Innovation

Against that background, the Critical Literature Review - as a first building block of the project - provided an overview of the current state of international research on Social Innovation, explicitly including studies on technological and business innovations. The overview confirmed *the lack of a theoretically sound concept of Social Innovation* which is able to describe commonalities and differences, and thereby coherently interlinking the different policy areas and research fields in which Social Innovation already plays a prominent role. *Innovation in general and Social Innovation in particular are conceptualised in many different ways*. This relates to the mostly problem-driven and intervention oriented type of research tailored in order to understand and finally overcome strategic challenges in seven policy fields.

At the same time there is *no clear understanding of how Social Innovation leads to Social Change* of existing structures, policies, institutions and behaviour (see Howaldt/Schwarz 2016). Obviously, phenomena of Social Change have been consistently looked at in innovation research conducted within the social sciences. Especially in areas such as energy, mobility or health, all defined as distinct policy fields of the SI-DRIVE project, social and technological elements of innovation are closely interwoven and, for the sake of describing their influence on Social Change, can hardly be separated.

The results of the *global mapping* revealed the importance of Social Innovation in addressing social, economic, political and environmental challenges of the 21st century on a global scale. Recent years have seen this new form of innovation emerging, both as an object of research and development. Social innovations appear in a variety of forms and are influencing people's lives. They change the way we live together, work or handle crises. Likewise, they are driven by different societal sectors and cross-sectoral networks and individuals. There is a growing consensus among practitioners, policy makers and the research community that technological innovations alone are not capable of overcoming the social and economic challenges modern societies are facing. We find a vast and growing number of social innovation initiatives all over the world, reflected as well by SI-DRIVE's global mapping of more than 1.000 cases in the different world regions. The global mapping uncovers a great number of approaches and successful initiatives that illustrate the strengths and potentials of social innovations in manifold areas, from social integration through education and poverty reduction, in establishing sustainable patterns of consumption, or in coping with demographic change. At the same time, social innovations are growing in importance not only in relation to social integration and equal opportunities, but also in respect to the innovative ability and future sustainability of society as a whole.

Although Social Innovation is widely recognised as an important development phenomenon, it has traditionally been perceived as being limited in scope. One key reason for this is that for a long time the Social Innovation discussion was predominantly anchored within civil society – and still is in many parts of the world (as stated in the Regional Report and Policy Field Reports). Yet, such a limited understanding is not sufficient for developing the potentials of Social Innovation. Instead, it is necessary to develop a comprehensive concept of Social Innovation that looks at its various manifestations, actors and cultural contexts, and that liberates the term from the narrow confines of a limited and rather traditional economic orientation that is focused on the concept of social entrepreneurship.

A comprehensive understanding of Social Innovation emphasises the different societal sectors and the surrounding ecosystem for Social Innovation. The ecosystem of Social Innovation *"is in very different stages of development across Europe, however. In all countries, though, the ecosystem is under development and there are a number of important factors enabling the development of Social Innovation, including important support and impetus from the EU"* (Boelman/Heales 2015, p.7).

At the same time, the mapping revealed an underdeveloped status of *conceptualisation and institutionalisation*. There is no shared understanding of Social Innovation (including a clear differentiation from other concepts such as social entrepreneurship or technology innovation), nor is there an uptake or integration in a comprehensive (social) innovation policy. Policy field related documents of public authorities, such as the European Commission, the United Nations, the OECD, the World Bank, etc., often even do not refer to social innovations (exceptions are Horizon 2020 documents as well as publications by some DGs). In an increasing number of countries, e.g. Columbia, Germany, Italy, Sweden, the United Kingdom and the USA, Social Innovation has been taken up by politics. However, in most countries no policy institutions with direct responsibility for Social Innovation exist. The initiatives and their sustainability are *highly dependent on* individual persons, groups and networks as social innovations are not yet embedded in public innovation programmes.

2.3 A COMPREHENSIVE DEFINITION OF SOCIAL INNOVATION - RESULTS OF THE SI DRIVE THEORY WORK

One of SI-DRIVE's main contributions to overcome this unsatisfactory situation relates to the *development and testing of a comprehensive Social Innovation definition which is based on social theory*.

The critical literature review delivered a wide-ranging overview on the state of the art of theoretically relevant building blocks for a theory of Social Innovation. For the first time it reviews different theoretical approaches that are conducive for a deeper understanding of Social Innovation and that provides an overview of relevant literature in the field of Social Innovation, combining the different fields of theory in its relevance for Social Innovation.

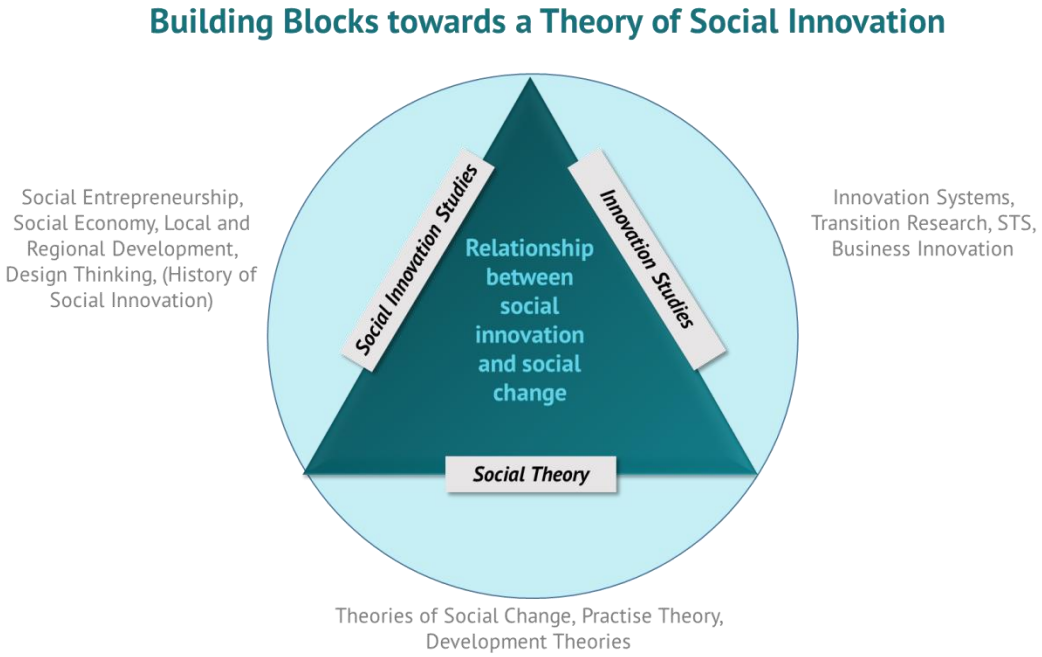

Figure 4: Building Blocks for a Theory on SI

While the overview on the different strands of innovation research shows that the concepts and understandings of Social Innovation differ across research fields, it also identifies some overarching similarities and trends:

- There is a growing awareness of the significance of Social Innovation. A plethora of vastly diverging subject matters and problem dimensions as well as expectations for resolving them are subsumed under the heading 'Social Innovation', however, without making distinctions between the different social and economic meanings, the conditions governing its inception, its genesis and diffusion, and without clearly distinguishing it from other forms of innovation.
- The innovation process is opening up to society. Companies, universities and research institutes are not the only relevant agents in the process of innovation. Citizens and customers no longer serve as mere suppliers of information with regard to their needs (as in traditional innovation management); they make active contributions to the process of developing new products and thus, to the resolution of problems. Terms and concepts such as open innovation, customer integration and networks reflect specific aspects of this development. Innovation, as a matter of fact, increasingly influences and permeates every aspect of life.
- Alongside with these processes, we perceive a growing variety of actors within the innovation process and a growing awareness of the complexity of innovation processes, along with increasing demands as far as the management and governance of innovation are concerned. This also resonates with the rise of design thinking as a heuristic approach to multi-disciplinary problem-solving through a structured process.

At the same time, we find multiple conceptual differences between the theoretical fields, not only with regard to the concept and understanding of innovation but also regarding:

- the role of technologies,
- the main actors and drivers,
- the relationship to Social Change,

- the governance and framework conditions, and
- the significance of power and conflict.

The chapters of the Critical Literature Review helped in clarifying the scientific concept of Social Innovation. In this perspective, Social Innovation is described as a 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 throughout society or in certain societal sub-areas, may become transformed depending on societal circumstances (context) and ultimately institutionalized as a new social practice or made routine. As every other innovation, 'new' does not require absolute or genuine novelty: Most innovations are new in relative terms, i.e. transferred or disseminated to another region, city or social grouping, other sectors and policy fields. Moreover, an innovation termed Social Innovation does not necessarily provide impact that is 'good' for all or 'socially desirable' in an extensive and normative sense. According the actors' practical rationale, social attributions for social innovations are generally uncertain (Howaldt/Schwarz 2010, p. 26).

With a focus on social practices, their reproduction and change as the *central element of sociality,* social practice theories (SPT) allows for identifying the social dynamics of change processes. This modified understanding of the social as social practices opens the view on their reconfiguration as a core element of Social Innovation and Social Change (see Shove et al. 2012). The social world is therefore composed of very specifically nameable, individual, although interdependent practices of governance and organizing; partnership; negotiations; self (see Reckwitz 2003); comfort, cleanliness and convenience (see Shove 2003); working and nurturing (see Hargreaves et al. 2013), and; consumption (see Brand 2010).

Here, the social is not to seek in the guidance of rules or in communication, but in the collectiveness of behaviours that are held together by specific 'practical skills': practices thus form an emergent level of the social, which is however not situated 'in the environment' of their physical mental carrier (see Reckwitz 2003). Social practices are always present and constantly reproduced and changed by acting subjects, by creating anew what already exists in the continuity of practice, again and again.

Key dimensions

Based on the SI-DRIVE definition, it was possible to develop key dimensions (see chapter 1, Figure 3) that guided the theoretical and empirical work, diversified in seven distinct policy fields and yet linked by a coherent theoretical and methodological framework.

Starting from *social practices as the central object of analysis,* the pentagram presented below summarises the key dimensions which fundamentally affect the potential of social innovations, their scope, and their impact. It helps also to develop the relationship between Social Innovation and Social Change. Additionally, it aids in understanding the complexity and ambivalence of any innovation and in adopting a strict scientific approach of looking at and analysing social innovations throughout their life cycles - from ideation and intentions to actual implementation and impact – which may turn out or may be discerned quite inconsistently (ranging from 'good' to 'bad') by different social groups, strata, or generations (Hochgerner 2013, pp. 17). The pentagram structure served as basis for applying the Social Innovation concept in theoretical and empirical research to all sectors of society (public, private business, and civil society) as well as to European and other world regions.

The advantage of the approach is based on the main elements derived from our theoretical and empirical work, as it is giving leeway to the integration of other main elements to describe Social Innovation: eco-system, mechanisms of Social Change, combining different policy and practice fields, policy (top-down) and grassroots (bottom-up) driven initiatives, system related / integrated or system complimentary or subsidiary initiatives, taking advantage of technological developments, etc.

In this way, the Critical Literature Review facilitated the elaboration of the particular features of a Social Innovation concept towards the development of a sound theory, and the establishment of coherent

methodologies to identify and promote social innovations. The theoretical analysis first provided a general depiction of how Social Innovation resonates within the wider frameworks of existing innovation theory and research, the concepts and perceptions of Social Change, as well as of societal and policy development. The five key dimensions of Social Innovation are essential in assessing the relations identified.

Subsequently, the *empirical research* has been undertaken to test the concept and to classify what can be observed in reality into a typology of Social Innovation (see chapter 7). Following the overall research question of understanding the relationship between Social Innovation and Social Change, the empirical investigation covered seven policy areas and eight cultural/world regions. SI-DRIVE analysed the differences and commonalities between social innovations in these areas in order to understand how social innovations develop, spread and scale under different conditions and in relation to relevant cross cutting themes (such as financial resources, ICT and social media, social entrepreneurship and the social economy, gender, equality and diversity, governance, innovation networks, demographic change and migration).

Two major mapping exercises have been conducted at European and global level. The first provided an *overview of various types of social innovations in the seven policy areas*. The second has included *in-depth and detailed case studies of specific innovations in the policy areas* (separately looked at in the eight world regions). The results provided new insights about the variety of Social Innovation approaches in different parts of the world used by practitioners, researchers and policy makers. By taking a comparative approach across regions and policy areas, SI-DRIVE research addressed a substantial gap in the evidence base by facilitating a comprehensive understanding of the roles and impacts of social innovations in different cultural contexts, including *(unforeseeable) social consequences and ambivalence*.

The global mapping thereby revealed the capacities of social innovations to *modify or even re-direct Social Change and to empower people* – i.e. by addressing a wide variety of stakeholder groups, as well as the broader public, in order to improve social cohesion and to allow for smart, sustainable and inclusive growth. The mapping shed light on the many, often nameless but still important, social innovations responding to specific and every-day social demands.

However, these initiatives and projects are *diverse and complex in their aims and effects*. Like any innovation, social innovations too, regardless of their protagonists' intentions, are in principle ambivalent in their effects, and new social practices are not automatically the "right" response to the major social challenges and the normative points of reference and goals associated with social transformation processes. The commonly found normative link between Social Innovation and socially esteemed values overlooks the fact that different purposes and interests can indeed be pursued with a Social Innovation, depending on the related utility and prevailing rationale, and that these accordingly by no means have to be regarded as "good" per se, in the sense of being socially desirable depending on interests and social attribution in order to be called *Social Innovation*. "There is no inherent goodness in Social Innovation" (Lindhult 2008, p. 44), their utility or effects can also be ambivalent depending on a point of view, just as with technical innovations. Expanded assessment criteria are also needed in evaluating Social Innovation and a social discussion process must be initiated, enabling an exchange of different perspectives and rationales.

Using the inputs of these preliminary studies, SI-DRIVE provided a *comprehensive architecture for understanding and discussing Social Innovation concepts, processes and impacts*. This framework is novel in its explicit consideration of different dimensions of Social Innovation. It is basis for a typology of social innovations as well as for a general theory of Social Innovation.

2.4 VARIETY OF FORMS AND CONCEPTS - RESULTS OF THE EMPIRICAL SI DRIVE RESEARCH

The results of the first empirical research phase of SI-DRIVE demonstrated that the approach is helpful in integrating the manifold meanings of Social Innovation under *a shared umbrella definition* based on and leading to a common concept and framework.

By referring to "social practices", the concept allows to cover a *broad spectrum of social innovations* which are present in the different policy fields, including even those initiatives which are not called social innovations. At the same time, the concept helps us to understand how social innovations encompass new practices – concepts, policy instruments, new forms of cooperation and organisation – and methods, processes and regulations that are developed and/or adopted by citizens, users, beneficiaries, customers, entrepreneurs, politicians etc. in order to meet social demands and to resolve societal challenges in a better way than existing practices.

In this perspective, the research focuses on analysing the process of invention, implementation (introduction to a context of use), diffusion and institutionalisation of new social practices in different areas of social action.

The mapping revealed the variety and diversity of Social Innovation worldwide, the different social innovation initiatives and practices, concepts and approaches, innovation processes and actor constellations, the variety of processes and networking through which Social Innovation occurs.

Social innovations in a sense of new practices are *omnipresent and appear in a variety of forms and change the manner in which we live together*. We find a vast number of social innovation initiatives in the different world regions, involving a wide variety of actors.

Thereby, each of the individual and collective actors from state, business, civil society and academia can play many different roles in Social Innovation processes – from initiation to diffusion and communication via media. Depending on context, cultures, economic, as well as institutional and technical frameworks, actors form case-specific collaborative constellations. Whilst civil society actors play the most important role in many cases and across practice fields, public agencies and administrations also stand out many times, so do business actors – *not only* the type of social enterprises. However, actors from academia appear to be the least active and relevant ones.

This is particularly worth noting because of the overriding importance of science and research in the creation and development of technological and business innovations, in the form of new production process engineering and corporate organisation. Public and private funding of RTDI (standardised term for "*Research, Technology Development and Innovation*") are accepted and promoted since about half a century and are indispensable levers to advance economic progress in the wealthy parts of the world. It became more than obvious throughout the SI-DRIVE mapping exercises, the regional and case study reports, that no such policies have been implemented for the advancement of Social Innovation and complementary supportive science and research. What seems acknowledged as indispensable for economic progress, namely the intensive involvement of academia and research in innovation, technology and economic policies, is missing until now pertaining to Social Innovation in favour of citizens' and countries' well-being, in both, the global North and global South.

Nevertheless, within the last years we are witnessing a growing number of new initiatives emerging and ever expanding varieties in practice fields in which the concept of Social Innovation prevails. To mention "*the*" concept of Social Innovation, however, might be misleading, as the empirical results demonstrated that the same incoherence in using the term Social Innovation is still prevailing in the theoretical debate on the subject.

Two reasons may have been leading to this situation:

(a) The long lasting focus on the business and economic relevance of innovation, understood in the classical notion Schumpeter outlined since 1911 – innovation as a corporate necessity for survival and prosperity.
(b) The sudden global multitude of crises (in the most important markets – real estates, stocks, resources – and state budgets, including the Euro-crisis) since about ten years.

The latter provoked enormous stress in social systems of wealthy world regions and an increased vulnerability of the bulk of people living in poverty or even extreme poverty in the most densely populated world regions with weak economies and actually without existing social security systems and affordable health and care systems. To compensate, a wave of social inventions are being tried out under such circumstances, many times leading to innovative initiatives to resolve mounting social needs, with the result of a plethora of "*social innovations*" popping up in poor countries, yet also in metropolitan areas and global mega cities.

Given the variety of initiatives and projects collected in the global mapping, the concept of Social Innovation cannot be limited to one focus, be it social entrepreneurship or social economy. On the contrary, a *widening of the perspective is crucial for understanding the concept in its entirety*. A *broad range of actors* is involved in the mapped social innovation initiatives. The global mapping clearly shows the participation of partners from all sectors. The public, private, and the civil society sector are represented to a high degree in all policy fields and world regions. The majority of mapped initiatives has been developed and implemented in a social network in which more than one sector is involved. We can say that cross-sectoral collaboration of the public sector, civil society and the private sector is playing a key role, and becomes even more important on the level of practice fields.

To overcome the given social demands and societal challenges, cross-sector collaboration is just as important as the involvement of users or beneficiaries. Subsequently, we find active user or beneficiary involvement in almost half of the social innovation initiatives. This shows that most of the initiatives develop new alliances, guarantee cross-sector fertilization and mobilize civil society (also proved by the high number of volunteers supporting the initiatives).

In this context, a constructive partnership between the sectors is a very important factor in order to reap the full potential of Social Innovation. Social innovations are first and foremost *ensemble performances, requiring interaction between many actors*. These findings indicate that *cross-sectoral collaborations* are of great importance, whereby - as might be assumed - a general dominance of the civil society cannot be detected.

The great importance of *empowerment of beneficiaries and citizens* in the Social Innovation concept corresponds with the fact that almost half of the initiatives mapped by SI-DRIVE involve user or beneficiary directly, whereby the rates of involvement differ in the policy fields and world regions. Social innovations aim at *activating, fostering, and utilising the innovation potential of the whole society*. Involving target groups and empowering beneficiaries, increasing their capacities to meet social needs, and giving them 'agency' is an indispensable component of Social Innovation. Thereby we find various forms of user involvement, from the development or improvement of the solution onto providing feedback, suggestions and knowledge to the adaptation of the Social Innovation idea for personalized solutions.

Empowerment, human resources and knowledge development represent one of the core challenges of social innovation initiatives all over Europe and also in other world regions. A central concern of the initiatives is about the people involved, be it promoters or users, and increasing their competences and capacity to act (by mutual learning, absorptive capacity building). This is of generic significance, because education, training and even informal learning is of particular relevance in what is termed the "Knowledge Society", where knowledge becomes the core capacity to act (Stehr 1994, p. 208).

Alongside with the growing importance of Social Innovation and the increasing variety of actors in the innovation processes, we also perceive higher *awareness of the complexity* of innovation, as well as *increasing demands concerning the management and governance* of innovations. In this regard, the question arises of "which governance structures support the growth of social innovations that are set as combined actions" (Scoppetta et al. 2014, p. 92).

Many Policy Field Reports confirm that the societal and governance systems, in which the social innovations are embedded, are complex and the problems addressed are deeply rooted in established practices and institutions. At the same time, many initiatives are small in scale. Therefore - as emphasized in the Critical Literature Review (Butzin et al. 2014a, p. 154) - to better understand this relationship between Social Innovation and Social Change, the social embeddedness of any innovation in a dense network of existing practices, routines, institutions and context conditions on the one hand and innovation streams on the other, has to be analysed. Any Social Innovation results in an outcome for those involved, yet to disseminate an impact further into society depends on certain conditions and mutual resonance between multiplicities of social innovations. Growing social numbers and the range of social innovations may be likely to affect pace and perhaps directions of Social Change. Thus, "Social Innovation" in general has an impact on societal development, just as innovations in business are meant to have an impact on economic development and growth. That is why SI-DRIVE is relating practice to policies and Social Change: analysing the policy environment, and answering questions such as how innovation policies

are barriers to innovations? What drives social innovations and who? And which stakeholders are doing what (Chapter 5 and 6)?

To unfold the potential of Social Innovation, it is important to develop a comprehensive understanding of innovation. Considering the complexity of innovation processes, we need to focus on the cross-sector dynamics of Social Innovation and the diversity of actors and their roles and functions within the innovation process (including their interaction in networks etc.) on the one hand and the framework conditions including governance models, addressed societal needs and challenges, resources, capabilities and constraints, on the other hand.

2.5 SOCIAL INNOVATION AND SOCIAL CHANGE[1]

By defining Social Innovation as a new combination or figuration of social practices does not only allow for integrating the many different (and sometimes conflicting) meanings of Social Innovation but at the same time offers a new perspective on the relationship of Social Innovation and Social Change. An innovation is therefore *social* to the extent that it *varies social action, and is accepted and diffused in society* (be it throughout society, larger parts of it, or only in certain societal sub-areas).

This perspective gives us the opportunity to understand the complexity of Social Innovation processes and its embeddedness in a dense network of existing practices and institutions, a precondition for better understanding the relationship between Social Innovation and Social Change. The in-depth Case Studies (see Ecker et al. 2017) dealt with a number of mechanisms of Social Change, such as learning, conflict, cooperation, competition and available (accessible) technologies. Again, the variety is massive across regions, cultures, practice - and policy fields. From a more theoretical point of view, the concept of Social Change needs some elaboration, prior discussing the issue of how and to which extent social innovations contribute to Social Change. In sociology, a widely accepted and common definition explains Social Change as „*the process of modification of social structures of a society, concerning its basic institutions, cultural patterns, corresponding social actions and tenors of awareness*" (Zapf 2010, p.349; author's translation).

Similar to the scholarly debates in economics, whether the economy tends to equilibrium or in principle is in disequilibrium, societal order also may be seen basically stable or in permanent motion. In case we consider a given order of society, Social Innovation could be singled out as one specific factor to make a change. However, if we consider society – with good reasons – as being at its best in an instable equilibrium, but often (and currently) out of equilibrium, Social Innovation must be seen as intertwined with many other criteria with impact on the *development* of society, i.e. Social Change. Thus, social innovations as such are usually (taking away the very seldom case of systemic change) not determinant as a single factor. Nevertheless, we may analyse the contribution of any case of Social Innovation to Social Change by checking its influence on *institutions, cultural patterns, social actions* (behaviour) and *awareness*, to identify potential or real shifts (sometimes with transformative character) in the social structures of a society. "Society" here may refer to a small group of people with specific demands, a community in villages or regions, city or national populations – or even the global "knowledge society".

The impact of social innovations varies (actually in every case) from raising awareness, which is essential in the ideation phase and the starting point of initiatives to create and implement an innovation, up to the formation of institutions (which not necessarily is the same as institutionalisation of new innovative practices, but often required to ensure a Social Innovation's sustainability). This is verified by the Case Studies conducted (see Ecker et al. 2017, p. 26):

> *"Exploring the various mechanisms of Social Change, we have already emphasised and compared various institutional contexts and found how strongly "institutions matter". Looking at institutional change, we find a pattern that can be generalised: Successful, scaling Social Innovations are characterised by their compatibility and connectivity (in a non-technical sense) with their institutional and also cultural and normative environments."*

[1] See also Chapter 8

The mapping reveals the capacities of social innovations to modify or even re-direct Social Change[2] and to empower people – i.e. to address a wide variety of stakeholder groups, as well as the broader public, in order to improve social cohesion and to allow for smart, sustainable and inclusive growth. The mapping activities shed light on the multitude of social innovations responding to specific and every-day social demands. The distinction between three different levels of outcomes is taken up and modified to some extent by the SI-DRIVE project: There is a strong relationship between (a) social demands and unmet social needs, (b) societal challenges, and (c) transformative systemic change in different policy fields (see BEPA 2010). However, the very idea of systemic change implies that multiple institutions, norms and practices will be involved, and that multiple kinds of complementary innovations would have to be introduced in order to cope with the high complexity of problems which require structural changes in society. Only then socially innovative action would be able to fulfil the excessive expectations of ground-breaking *systemic* social innovations (or *radical* innovations in the common language of innovation theory and research) and transformative change (see also chapter 8).

Against the background of the SI-DRIVE's objectives, it also will be crucial to further research why political intervention may or may *not* work in some fields of Social Innovation, and where or when prevailing trajectories of societal variance and respective policies exhibit impediments to Social Innovation. Social Innovation requires also appropriate *Social Innovation policies*. The traditional framework for the public administration of rules and regulations needs new ideas and methods. Many potential social innovations (ideas) are hindered by traditional approaches in public policies. If Europe wants to tackle the challenges as documented in its Strategy for Smart, Inclusive and Sustainable Growth as well as by its specific flagship initiatives, policy makers need to understand how to involve and make use of citizen participation in order to serve the public good (Bourgon 2011). Based on the accurate integration of conceptual and empirical knowledge, SI-DRIVE offers in the end a coherent *policy strategy platform* for policy makers.

For instance, empirical results of the analysed Case Studies hint to some relevant suggestions (see Ecker et al. 2017, p. 38):

> *"Social Innovation policies tend to favour a somewhat linear master narrative: encouraging variation with limited investment (often in projects and programmes), then selecting through more or less elaborated and clear evaluation of (expected) outcomes and impacts, mobilising diverse and preferably non-subsidised resources to sustain the innovation, ideally identifying scalable "best practices" and scaling them. As we have seen, mechanisms of Social Change are more scattered, heterogeneous and contextual than this narrative would have it, and in many fields, sustaining that very variety and sensitivity to contexts may provide more flexibility and resilience in the face of changing, volatile and tension-driven societal challenges. However, where transformative changes are required, as in the policy fields addressing environmental sustainability, enabling variety and ensuring their viability already requires complementary institutional change that opens up spaces for Social Innovation and empowerment of wider user groups and stakeholders."*

2.6 THE ROLE OF TECHNOLOGY IN SOCIAL INNOVATION

According to SI-DRIVE's definition of Social Innovation, 'the new' does not manifest itself in the medium of technological artefacts, but at the level of social practices. If it is accepted that the invention and diffusion of the steam engine, the computer or the smartphone should be regarded differently from the invention and social spread of a national system of healthcare provision, the concept of corporate social responsibility (CSR), or a system of micro financing, then it stands to reason that there is an intrinsic difference between technological and Social Innovation.

[2] In another publication, Wolfgang Zapf referred to this potential in his early definition of social innovation: „Social innovations are new ways of goal attainment, in particular new organisational forms, new regulations, new life-styles, which modify the direction of Social Change, resolve problems better than previous practices, and therefore are worthy of becoming imitated and institutionalised." (Zapf 1989, p.177).

However, technological innovations are a crucial factor to enable for instance the formation of – and successful cooperation in – the practice fields "Energy Collectives" and "Local Production of Energy". We observe the close interrelation between innovations in specific areas of technology as pre-requisites for social innovations.

Who would deny that, e.g., a new technology to clean sewage will benefit society and environment in cities, and that it will be considered a business or technological innovation – and therefore may be granted funding for development if there are suitable RTD funds in place? The *implementation* of the same (or similar) technology, maybe even in a less sophisticated form, may be considered a *Social Innovation* because doing so would require the development and implementation of *new practices* in dealing with provisioning water and sanitation of sewage. A new set of action, in cooperation with a probably new constellation of actors – perhaps the creation of a new company, public institution or civil society association – might be required. *This* (the novel practices improving the living conditions of the population concerned) would become a *Social Innovation*, not the technology as such.

And looking at the same issue from the other side, it is the establishment and implementation of cooperative practices, shaped by collectives, that makes the new technology viable and effective. This underlines the enormous relevance of social innovations concerned with effective measures (including the application and utilisation of new technologies) to cope with climate change, due to the core relevance of energy supply and energy use in this regard.

The comparative analysis (CA) (Howaldt et al. 2016) identified important differences in processes of social and technological innovation. While the development of technological innovation is a dynamic process, mainly motivated by new possibilities of technologies to produce and market new products and services that may become commercially effective, Social Innovation processes usually seem to be driven by the identification and perception of a social problem. The main motivation and trigger for starting, initiating and running a Social Innovation is the need to respond to a specific societal challenge or a local social demand - being by far more relevant than having an inspiring new idea, a policy incentive (like a policy programme or a strategy), a social movement focusing on specific issues or taking advantage of new technologies for tackling social problems.

The CA also emphasised that – different from technological innovation – science and research do *not* play a relevant role as a trigger or driver for social innovations to develop. This is underlined by the low number of involved universities and research institutions as partners of initiatives.

However, that does not mean that technologies do not play an important role in the development and diffusion of new social practises. As mentioned before, the analysis of the different strands of innovation research (see Howaldt et al. 2014) revealed many conceptual differences with regard to the role of technologies within Social Innovation processes. The mapping demonstrated that technologies are not in the centre of Social Innovation (Howaldt et al. 2016). But while in many social innovation initiatives technologies do not play an import role, in others the possibility of taking advantage of new technologies for tackling social problems serves as a first motivation or trigger (23% of the cases). So, the CA concludes that *new technologies may* offer new opportunities for Social Innovation. Especially the potential of social media and mobile technologies could be a driver for social innovations. Therefore, it is important to understand how technological (as well as economic and business) innovations are developed in order to tackle new issues in a policy field and which solutions are generated by citizens, social entrepreneurs, civil society organisations, localities etc., for the most urgent problems.

With regard to Social Practise Theories (SPT), *social practices are stabilised, modified or replaced when the link between the key elements is made, maintained, altered or broken*. The key elements of social practices are: physicality, in the sense of incorporated sociality and physically carried out practices; materiality, in the sense of the meaning of artefacts, things, technologies in and for social practices; competencies, in the sense of know-how, practical knowledge, background knowledge, and understanding.

While the significance of artefacts and technologies is the core area of innovation studies, and a difference is usually made between innovation, development and diffusion, the SPT approach allows for carving out the dynamic relation between producers and users in building and stabilizing new arrangements, as well as the embeddedness of innovations in social practices. Novelty can start from each of the elements, not only from the

material dimension (Howaldt et al. 2014, p.13). Innovations of social practices can be understood – also in terms of a methodological strategy – as processes of connecting the new with already existing elements (ibid.).

Therefore, the follow-up in-depth Case Studies put a great deal of attention to a better understanding of the relationship to technological innovation as well as to innovation that is oriented at the creation of economic rather than social value. Looking at more than 80 cases, we could see that the role of technology varies greatly in the different practise fields and social innovation initiatives. There are many cases and practise fields where technology does not play an important role (e.g. integrated care; income support, reduction of educational disadvantages). In others, technology plays a prominent role (e- and m-Health; Repairing, Re-using and Recycling). Yet, even for those cases and practice fields, the role of technology varies greatly.

Technology may be seen as an enabler for the development of a new social practise or a context. It may be seen as a weakness or as a barrier for the development of Social Innovation. The Compiling Report (Ecker et al. 2017, p.37) is very clear in attributing a major role and relevance to technology and the utilisation of technology as an instrument:

> *"Diffusion (of technological) innovation plays a role on the level of all policy fields. Whereas it was not specifically pointed out in all policy fields and levels below, an essential influence factor seems the existence of a diffusion strategy and/or economic or business models which involve a concrete planning in terms of diffusion. The role of (ICT) technology depends on the concrete approach of initiatives. It can be summarised that technology can be – amongst others – a prerequisite for diffusion, an enabler, an instrument, a supporter and a form of knowledge that needs to be disseminated."*

2.7 CONCLUSION AND OUTLOOK - FUTURE RESEARCH QUESTIONS

The mapping activities of SI-DRIVE as well as the theoretical work depict a huge diversity of approaches and initiatives, of which many have been implemented successfully in the selected policy areas. This illustrates the strengths and potentials of social innovations in the area of social integration through Education and Poverty Reduction, in establishing sustainable patterns of consumption, or in coping with demographic change. Social innovations are gaining in importance, not only in relation to social integration and equal opportunities, but also in respect to the innovative ability and future sustainability of society as a whole.

On the other hand, Social Innovation has traditionally been perceived as being limited in scope (see Millard 2014, p. 35). One key reason for this is that for a long time, the Social Innovation discussion focused predominantly on concepts of social entrepreneurship (see Nicholls 2012; Phills et al. 2008; Short et al. 2009). Yet, such a limited understanding is not sufficient for developing the potentials of Social Innovation for the purposes of human development as well as ecological, economic and social sustainability (see Davies 2014; Howaldt et al. 2014). Instead, it is necessary to develop a concept of Social Innovation that is, on the one hand, grounded in social theory, yet on the other hand looks explicitly at its various manifestations, involved actors and cultural contexts (Howaldt et al. 2014).

Developing a theoretically grounded concept of Social Innovation is the essential condition for meeting the demand for an integrative theory of socio-technical innovation in which Social Innovation is more than just a precondition for, concomitant phenomenon with, or a consequence of technological innovations that should compensate for shortcomings in (social) policy (see Elsen/Lorenz 2014, p. 2). As can be seen in the international debate, Social Innovation is treated mostly as a separate type of innovation which only recently gained more attention as an object of empirical investigations. Gradually social sciences are catching up with the development of the phenomenon of Social Innovation in reality, aiming at a theoretically grounded concept.

Inspired by the increasing political and public interest in the concept, the international scientific debate has gained momentum throughout the last years. Against the background of a largely neglected theoretical conceptual discussion and the implied conceptual weakness of the notion, aspirations to stimulate an interdisciplinary discourse are on the rise. At the same time, there is an increase in attempts to systematically differentiate between research streams, to strengthen the different perspectives theoretically, and to establish Social Innovation as an analytical concept with a well-defined research subject (Hochgerner 2009, 2013; Pol/

Ville 2009; Mulgan 2012; Moulaert et al. 2013; Cajaiba-Santana 2014; Howaldt et al. 2014; Nicholls et al. 2015; Klein et al. 2016).

SI-DRIVE made an important contribution by developing and testing a comprehensive and analytical definition which describes Social Innovation "…as a new combination or figuration of practices…." (Howaldt et al. 2014, pp.151). The results of the empirical research of SI-DRIVE further demonstrate that this approach is helpful in integrating the manifold meanings of Social Innovation under *a shared umbrella definition*, leading to a common concept and framework of scientific research, funding policies and utilisation in practice at society's micro, meso and macro levels.

However, there are some limitations to the SI-DRIVE approach that should be addressed by further research. The cases observed in the mapping were mostly called „social innovation initiatives", not „social innovations". This was due to the fact that the definition applied asked for „better solutions to societal challenges". Thus, all sorts of methods, activities and more or less ambitious *attempts* to improve social standards in general could be termed Social Innovation – when successful. The outcome of this is that in the majority of cases we know very little of the factual impact. To surpass such limitations, future research ought to make *proof of impact* a condition for the inclusion of a case (an 'initiative' or a 'project') in research samples[3]. Accordingly, Social Innovation research should *directly address practices in real life* (not imaginations – often hopes and phantasies - of what *should* happen).

Based on such precautions, future analysis should address research questions and issues like these:

- Was the impact realized as intended?
- Who earned benefits? Who had, has or will have to bear the burden of someone else's success?
- Are there any measures to gauge impact?
- What are the conditions and frameworks leading to success and sustainability?
- Dynamics of social innovations at large and inter-relations with other elements that are influencing Social Change
- Historic relevance of social innovations and future expectations concerning human development

The development of a theoretically sound concept of Social Innovation is as a precondition to elaborate an integrated theory of innovation which considers social, business, public sector and technological innovation under one common umbrella concept of innovation. It is also a precondition for strategic Social Innovation policy as part of comprehensive Innovation Policy. An extended notion and generic understanding of '*innovation*' – comprising the classic concept of innovation, considering not least also the social impact of business innovations, plus the particularities of Social Innovation – may unleash a new complex of policies relevant for societal, economic and technology evolution.

[3] Figures from the long experience of the Austrian Award for Social Innovation „SozialMarie" (with annual records since 2005) may serve as provisional reference to roughly assess the portion of quality social innovations with impact among the larger crowd of ‚initiatives': Since the first call for applications (2004/2005) close to 3000 ‚projects' have been submitted. Of these more than 200 (ca. 7%) have been awarded one of the diverse prizes, about 430 (about 14%) were nominated. These figures, of course, cannot be taken ‚pars pro toto' to estimate comparable figures in other world regions. However, since in the case of SozialMarie applicants are challenged by the criterion of presentable success, we may expect in the case of looking out in general for what is termed ‚social innovation' to find only a minority of the initiatives really qualifying for social innovation.

3 OBJECTIVES: SOCIAL DEMANDS, SOCIETAL CHALLENGES AND SYSTEMIC CHANGE ADDRESSED

Jeremy Millard (Bradford), Ursula Holtgrewe (ZSI) and Josef Hochgerner (ZSI)

3.1 INTRODUCTION

Social innovations do not necessarily manifest themselves purely in response to perceived societal needs and challenges. However, both their raison d'être and success are first and foremost understood and evaluated in relation to how well they respond to the societal needs and challenges, as perceived by policy makers, practitioners, actual and possible beneficiaries, and the wider public, within a particular societal context. From the Social Innovation perspective, these needs and challenges operate at three societal levels: social demands (micro), societal challenges (meso) and systemic change (macro), as described in section 1.2. In concrete terms, the three levels encompass, at different scales and often with distinctive objectives and processes, a large number of perceived social needs which Social Innovation actors attempt to address. However, the evidence gathered by SI-DRIVE, in a dataset of 1,005 social innovations and 82 in-depth case studies, shows that actual social innovations are unevenly distributed across these levels and do not develop in a convergent manner towards desirable Social Change.

This chapter first maps the existing terminologies of social needs or demands, societal challenges and systemic change as they inform the United Nations' Sustainable Development Goals (SDGs) for 2030 (United Nations 2015) and the EU's research and policy strategies for 2020 and beyond (European Commission n.d. a). It then outlines a social theory angle on the interrelationship of agency and structure that helps us explore the relationships between actors and institutions, processes of change and stabilisation, mutual accommodation of systems and social innovations. We then explore evidence from the SI-DRIVE survey and database in relation to the societal challenges, policy fields and levels of intervention that social innovations address. The next section examines the findings of SI-DRIVE's case studies that explore the relationship of Social Innovation to societal needs and challenges through the lens of specific mechanisms of Social Change. The empirical analyses and the theoretical framework are integrated into a model in section 3.7 that combines the BEPA logic model of social needs, societal challenges and systemic change with the links between the micro, meso and macro levels of sociological theory, and the interrelationship of structure and agency. We find that social innovations mostly address social needs and societal challenges rather than aiming for systemic change. However, addressing and integrating the first two levels in a holistic way that goes beyond isolated problem-solving and empowers beneficiaries while meeting their needs, and enabling collaboration across domains and social actors on the meso level, may contribute to systemic changes in more indirect and incremental ways.

3.2 SOCIETAL NEEDS AND CHALLENGES IN SI RESEARCH

The classic and influential BEPA understanding of Social Innovation is that socially innovative projects and initiatives aim to address social needs and societal challenges rather than focusing primarily on economic success and profit or technological development. This is clear; however the SI-DRIVE project sets out to develop a more comprehensive theory. By iterating theory-building, mapping and comparative analysis of social innovation projects and initiatives, it aimed to locate Social Innovation in social theory, to develop a more relational and contextualised view and to explore the relationship between Social Innovation and Social Change.

However, the BEPA model connects societal needs and challenges with actual project design and evaluation processes that have been widely institutionalised in national and European programmes covering Social Innovation. For this reason, it provides a starting point to outline the view developed in the SI-DRIVE project. According to BEPA "the output dimension refers to the kind of value or output that Social Innovation is expected to deliver: a value that is less concerned with mere profit, and includes multiple dimensions of output measurement" (BEPA 2010, p. 26). The effects of the Social Innovation on society, societal needs and challenges, or rather the response to them, form the outcome dimension. Increasingly, output and outcomes are being more

clearly distinguished in both project planning and evaluation. The straightforward logic model sets out these relationships as shown in Figure 5.

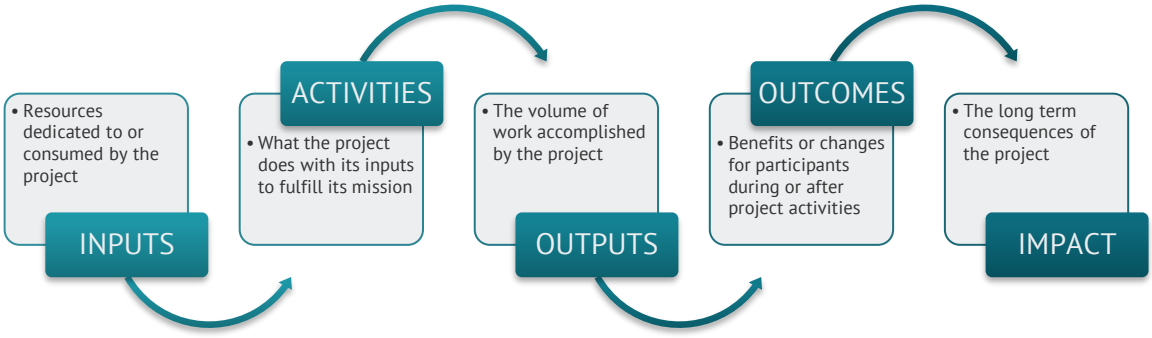

Figure 5: The Logic Model Approach (Adapted from Instances of Impact 2012)

In this view, outputs are directly produced by a number of activities which use project inputs, such as finance, people, existing knowledge, technology, etc. Outputs might be for example, a new product or service launched, training courses or tasks completed, etc. In contrast, outcomes are the changes resulting from the outputs that are actually experienced in their own life or work by specific participants and beneficiaries. Thus, although a product or training course may be developed or completed, it may be the wrong product or course, or may not be as useful to the target beneficiaries as intended. Note also, that although outcomes are almost always designed to result in positive changes, there can also be negative, ambivalent and unintended changes. The difference between outcomes and impacts is that outcomes target the direct participants and beneficiaries whilst impacts examine the sectoral or society-wide changes that may also affect other actors. Impacts thus tend to be longer-term and often require other, complementary outcomes to be generated which may not be under the direct control of the project or initiative. According to BEPA (2010), there are three societal levels at which outcomes may arise. In this understanding, social innovations:

1. "Respond to *social demands* that are traditionally not addressed by the market or existing institutions and are directed towards vulnerable groups in society […]. These are typically seen at the micro level.
2. Tackle 'societal challenges' through new forms of relations between social actors, […] respond to those societal challenges in which the boundary between social and economic blurs, and are directed towards society as a whole […]. These are at the meso level.
3. Contribute to the *systemic change* or reform of society in the direction of a more participative arena where empowerment and learning are both sources and outcomes of well-being" (ibid., p. 29). These are at the macro level.

This represents a handy taxonomy of the results of social innovations and initiatives, and immediately relates to the relationship of Social Innovation and Social Change. However, it favours such changes that are intended and favourable to the participants and beneficiaries. It also implies a somewhat linear and functional view of social relations: a demand is articulated and then met, a challenge is tackled, or (with notably tentative wording) empowerment and participation are extended. SI-DRIVE has operationalised these categories using a slightly different terminology. It has investigated the extent to which social innovation initiatives address the respective levels: do social innovation initiatives or cases look at demands by particular groups, do they address societal challenges (that are assumed to extend across local situations) or do they aim for systemic change? This will be further explored in section 3.5.

3.3 SOCIAL NEEDS, SOCIETAL CHALLENGES AND WICKED PROBLEMS

However, SI-DRIVE considered from its inception that many social needs arise, in effect, from so-called 'wicked' problems, although this term was not used. These are very complex and intertwined challenges which require the combination of highly differentiated types of knowledge and expertise, collaboration between multiple actors and openness to new ideas and approaches. It is in such a space that Social Innovation has in recent years been recognised and able to thrive, given its typically good innate match with such requirements. Many such 'wicked' problems appear to be shared across most parts of the globe, which is clearly one aspect of increasing globalisation, even though they take quite different shapes in different contexts:

- Climate change and related concerns like reductions in bio-diversity and increasingly severe weather events. These are linked to the increasing scarcity of especially physical resources as well as of energy, and with stresses related to the need to shift both physical and political/institutional infrastructures away from carbon-based energy to renewable energy.
- Dramatically increasing inequalities, especially within countries, also related to gender and minorities, despite the significant reduction in poverty over the last 10-15 years and overall less inequality between countries.
- Food, water and nutrition insecurity that are largely the result, not of overall shortages, but of huge distributional imbalances also related to significant market and political failures.
- Labour market, employment and skills challenges, due not least to dramatic industrial and economic changes. These result, first, from globally changing divisions of labour and restructuring of companies, states and markets exacerbated by the 2007-8 financial crisis and, second, presaged today by the so-called fourth industrial revolution, with new technologies like artificial intelligence and robotics, that are already leading to completely new types of work and work organisation.
- Rapidly changing demographics, including continued population growth in most so-called developing countries, ageing populations and population shrinkage in others, the strongest migration pressures since 1945, gender and minority issues, and burgeoning urbanisation.
- An apparent upsurge in crime, violence, conflict and war, largely due to many of the above 'wicked' problems, although the medium and long-term trends show crime and violence are decreasing in many places. What has certainly changed, however, is the use of new technology in this context as well as increases in related political and security concerns on a global scale.
- Many governance and existing societal institutions at all levels in most countries around the world are struggling to cope with the above, whilst in many, though by no means all, so-called developing countries there are actual failures of institutions and regimes. These range from existential crises to failing states, as well as rampant mistrust by entire societies in their institutions' capacities and willingness to cope.

Although the main focus of this chapter is on the societal needs and challenges sketched above, there is much evidence that overall global societies are in much better shape than at any time in human history. Barack Obama, in one of his final speeches as US President, pointed out in 2016 "that when you look at all the measures of wellbeing in the world… now is the best time in human history to be alive" (Obama 2016). The results of the United Nations' Millennium Development Goals (MDGs), 2000-2015 (UN 2015), clearly demonstrate significant global progress, including surpassing targets in poverty reduction, education for girls and access to clean water, despite some failures to fully meet targets in areas like reducing hunger, primary school completion and child and maternal mortality. However, the continuation, and in some cases worsening, of the 'wicked' problems mentioned above, and the acknowledgement in chapter 3.2 that outcomes can also be negative, ambivalent and unintended, shows that such progress is not inevitable and may even be reversible. With any type of innovation there can be both 'winners' and 'losers', depending how this is perceived, and indeed there need to be balanced trade-offs between these and different interests within society. For example, sharing platforms supported by new technology, which started as social innovations, like Uber and AirBnB, provide many people, including the underemployed, with a chance to find the flexible work they want, and thereby improving their incomes and social contacts. However, for others where work in the corresponding sectors is the only source of work or income, it can force them down a road of low pay and poor working conditions with unpredictable and thus unstable financial prospects. In addition, there are, at time of writing, many threatening developments, such as populist movements in many countries, failed states, civil and cross-border wars, increasing inequality, and a new US president with radically different views compared to Obama.

Indeed, the lessons arising from the MDGs point to at least two requirements going forward into the SDGs, 2016-2030. First, the need to much better contextualise and localise sustainable development thereby recognising that, despite the above global 'wicked' problems, societal needs and challenges in concrete terms demonstrate huge variety both spatially and at different scales. Second, unlike the MDGs, the SDGs have brought together, both in their design and their current and ongoing implementation, all societal actors across the quadruple helix of innovation (government, business, research and academia, plus civil society). Additionally, the SDGs have deliberately added a fifth actor, albeit one without conscious agency, namely nature/the environment, thereby supporting the notion of the quintuple helix (Carayannis et al. 2012).

The EU has played an important role in shaping the UN's 2030 Agenda, through public consultations, dialogue with partners and in-depth research. The EU will continue to play a leading role as the implementation of this ambitious, transformative and universal agenda gets underway (European Commission 2017). Thus, it is not surprising that current EU strategies closely reflect the SDG 2030 agenda. According to the European Commission, "the Europe 2020 strategy is about delivering growth that is: smart, through more effective investments in education, research and innovation; sustainable, thanks to a decisive move towards a low-carbon economy; and inclusive, with a strong emphasis on job creation and poverty reduction. The strategy is focused on five ambitious goals in the areas of employment, innovation, education, poverty reduction and climate/energy (European Commission n.d. b)."

The EC's research and innovation programme, Horizon 2020, reflects the policy priorities of the Europe 2020 strategy and mirrors the wicked problems we have outlined. It addresses major concerns shared by citizens in Europe and elsewhere using a societal challenge-based, multi-disciplinary approach across different fields and technologies, including social sciences and the humanities. "This covers activities from research to market with a new focus on innovation-related activities, such as piloting, demonstration, test-beds, and support for public procurement and market uptake (European Commission n.d. c)." So-called European Innovation Partnerships have also been established to link the actors across sectors and countries needed to address specific challenges. The following societal challenges are targeted, and indeed SI-DRIVE's seven policy fields, as well as the project's overall approach, have directly focused on many of them, as well as taken cognisance of the SDGs:

1. Health, demographic change and wellbeing
2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the bio-economy
3. Secure, clean and efficient energy
4. Smart, green and integrated transport
5. Climate action, environment, resource efficiency and raw materials
6. Europe in a changing world - inclusive, innovative and reflective societies
7. Secure societies - protecting freedom and security of Europe and its citizens.

3.4 FROM LEVELS TO LOOPS: SOCIAL THEORY'S CONTRIBUTION

From the point of view of social theory, the identification of outcomes and impacts relating to institutionally defined societal challenges is of course somewhat reductionist. Theories addressing actors, social structures and systems emphasise multi-dimensionality, interrelatedness, unintended consequences and emergent effects (Howaldt et al. 2016). social innovations interact with their societal contexts in multiple ways. Put quite simply, elements of 'society' such as social practices, individual and collective actors, cognitive frames, and value judgments feed *into* social innovations, and changed or changing social practices, actors, cognitive frames, value judgments form the *outcomes* of social innovations. The arrows of handy diagrams, such as Figure 5, become loops and recursions and the neat packages of objectives, outcomes and impacts are unpacked.

This linearity thus appears tautological: any invention, to become an innovation, needs to be taken up and used, and thus is *retrospectively* assumed to fulfil a need – otherwise it would not exist as an innovation. social innovations are expected to respond to those needs and challenges that for various reasons do not translate into a market demand or a technological development. Behind this linearity, the retrospective assumption of needs and challenges met raises historical and political questions: which needs of which groups are being addressed? Who defines, enacts or evaluates the societal needs and challenges that a Social Innovation is addressing? How

those definitions are negotiated, understood and implemented and do they change in the process? It also raises the question of intentionality and emergence: did the social impact that appears as the meeting of a need occur according to plan (to identify and then meet that need) or did it result from serendipitous actions, decisions or circumstances during the implementation process? In many cases, mutual accommodations of needs, actions, results and plans can be observed. Even in technological or organisational innovations, mutual accommodations of aims and actual possibilities, problems and solutions are as well-known as the 'creep' of missions or other features. Successful innovations in the market have been found to not only fulfil existing needs, they may spark off needs and desires that did not exist, or at least were not consciously articulated, before. Indeed innovations, both commercial and social, may invent the needs, along with the new products or services, in the ecosystem around them, as for example the iPhone. Such innovations have become a major driver of economic development since the advent of 'prosumerism'. These questions address the sequence of challenges and solutions in the lifecycle of social innovations and can create real methodological challenges for the assessment of outcomes and impacts.

Another question with stronger implications for policy and its levels are the relationships and dynamics between levels. Social theory provides the useful distinction of agency and structure for this purpose:

- **Structure:** the recurrent patterned arrangements of rules and resources, habits, conventions, institutions and cognitive frameworks that influence or limit the choices and opportunities available to societal actors.
- **Agency:** the capacity of individuals and collectives to make sense of structures, to act upon them, reason and make choices.

Structure and agency in this view (Archer 1982; Emirbayer/Mische 1998; Giddens 1984) are complementary forces.[4] Structure both constrains and enables human behaviour, and humans are capable of reiterating or changing the social structures they inhabit, although this typically requires collective action on a relatively large scale and timeframe so can be difficult to do. Agency and structure play out their relationships on the micro, meso, and macro level, but nevertheless do not dissolve the distinction of levels. On the micro level, vulnerable individuals have very limited influence over many of their circumstances including the social structures they inhabit, although they are of course competent actors in their context. Social innovations meeting social needs can help supply them with basic requirements of health, education or work – and, as we show below, in the process, such innovations often aim to build their beneficiaries' capabilities for agency. Societal challenges on the meso level are chiefly addressed by collective actors: organisations and institutions that have various stakes in the field. Organisations and institutions and their routines and established modes of operating may also be established constituents of the social structure and indeed "part of the problem" to be addressed, and we shall see that social innovations frequently are facing conflicts between incumbents and newcomers. However, individuals as innovators, charismatic or inspirational leaders will be found to play important parts. Finally, systemic change on the macro level, institution-building and institution-changing require long-term and far-reaching collective action by multiple and distributed actors, and emerge from interconnected actions and both their intended and unintended consequences. The history of social movements is full of examples, and it is not surprising that the link of many of the social innovations investigated by SI-DRIVE to systemic change is tenuous.

Social innovations may be initiated and evolve in moves between different levels: addressing a local problem, then scaling up the solution (Gabriel 2014), or even initiating a social movement with wider and deeper demands for change. It may also evolve towards gaining critical mass to contribute to systemic change (all in more or less intended ways), but also 'handing down' a challenge (again, in more or less intended ways, by challenge-based political programmes or by institutional failure). For example, this may take place by retrenching the welfare state and leaving emerging problems to the efforts of civil society or private households – with more or less openness to farther-reaching 'democratisation'. Collective struggles and conflicts about domains, problems and solution 'ownership' or the powers of definition, degrees and aspirations of change are likely. Again, this raises the political question of who gets to decide on which level a challenge or problem is adequately addressed.

[4] This is developed in more detail by Howaldt and Schwarz (2016). Since the aim of this chapter is to connect theory and empirical results, we pursue a simplified theoretical approach.

To demonstrate the uses of this concept, we can map the UN's SDGs against concepts of structure and agency that also fit with the BEPA levels (2010). Note in this map, that outcomes, in the form of desired societal, educational, economy and environmental changes, are delivered by the complementary action of agency and structure. Some support for the above model and possible alignments is provided by mapping the UN's seventeen SDGs, as depicted in Figure 6 and further elaborated below. The four outcome pillars, plus the governance capstone, indeed correspond to the quintuple helix approach now being promoted, in effect, by the UN's SDGs.

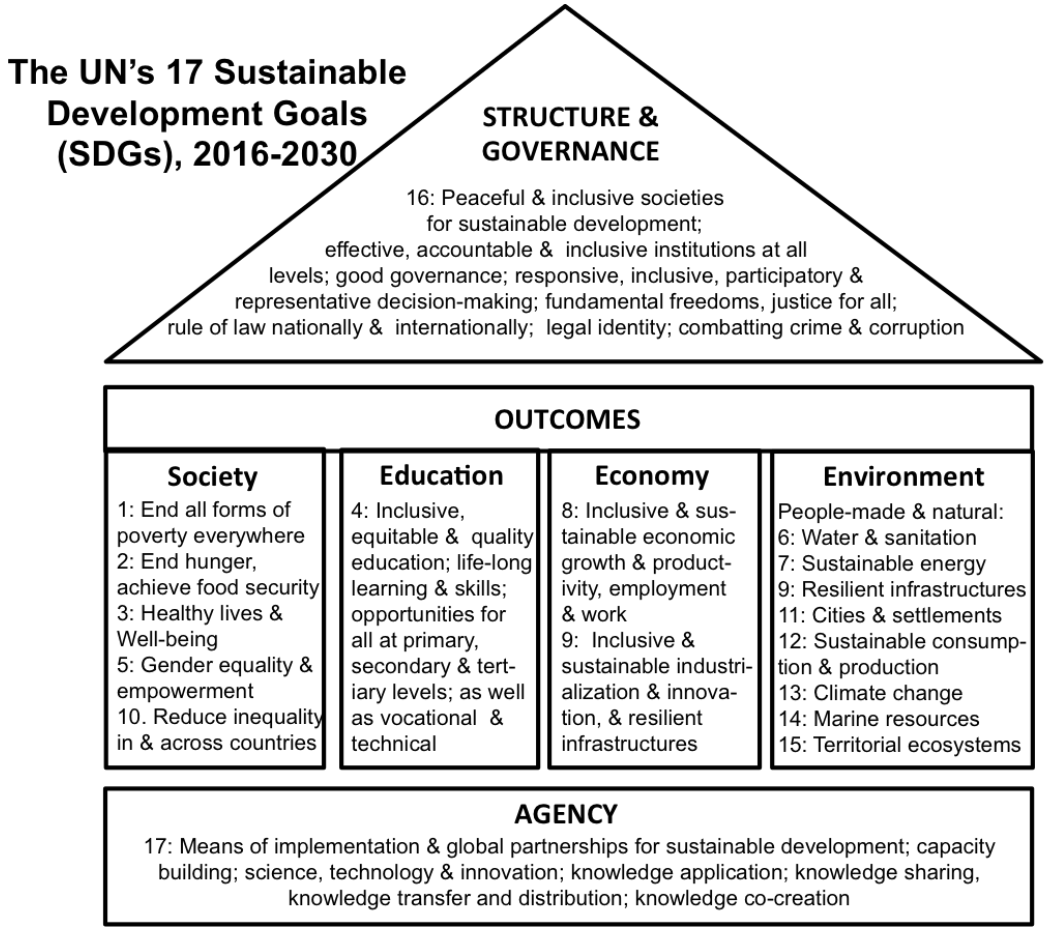

Figure 6: Mapping the 17 SDGs onto the agency-outcomes-structure Model

SI-DRIVE investigated social innovations in seven policy fields, as shown in Figure 7, that were selected at the project's start to closely reflect both the SDGs and the major EU strategies, whilst taking cognisance of areas where social innovations already are having impact.

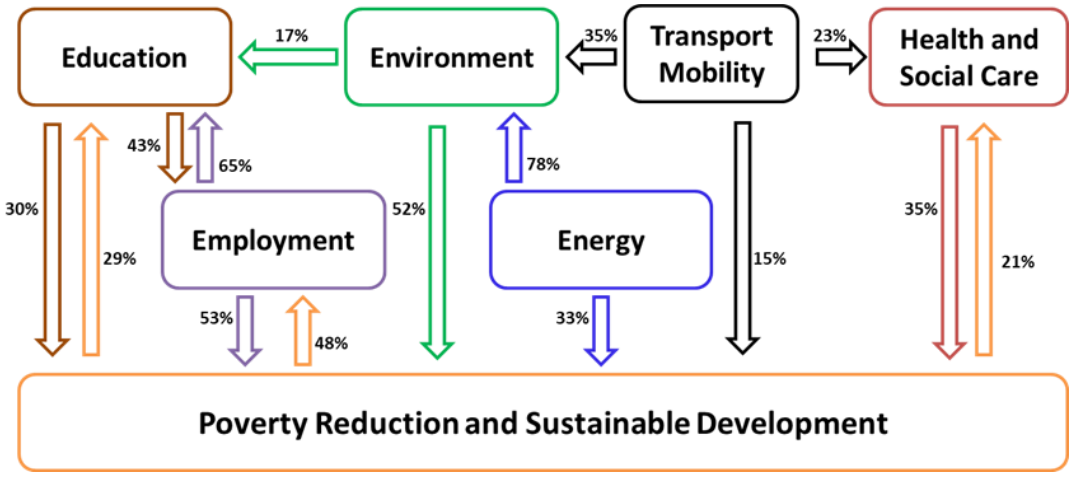

Figure 7: Interrelations between SI-DRIVE's seven Policy Fields

SI-DRIVE's global mapping of 1,005 case studies located in these policy fields reveals their very strong cross-cutting character, and hence the interrelatedness of policy fields that mirrors the 'wickedness' of problems addressed. Most cases cover more than one policy field, with Poverty Reduction and Sustainable Development the most cross-cutting of all, having strong relationships to all the other six policy fields. Figure 7 shows the percentage of cases ranked 2 and 3 related to the main policy fields ranked 1 for each case.

SI-DRIVE's policy fields also have a number of significant cross-cutting themes in common, as depicted in Figure 8. In particular empowerment, human resources and knowledge are themes of social innovations in more than half of the cases. Also common in a large number of cases are entrepreneurship and economic issues. New technology and gender, with equality and diversity, are addressed by one third of cases each, and governance and demographic change are seen as important in less than one fifth of cases respectively. Migration is addressed in a tenth of cases.

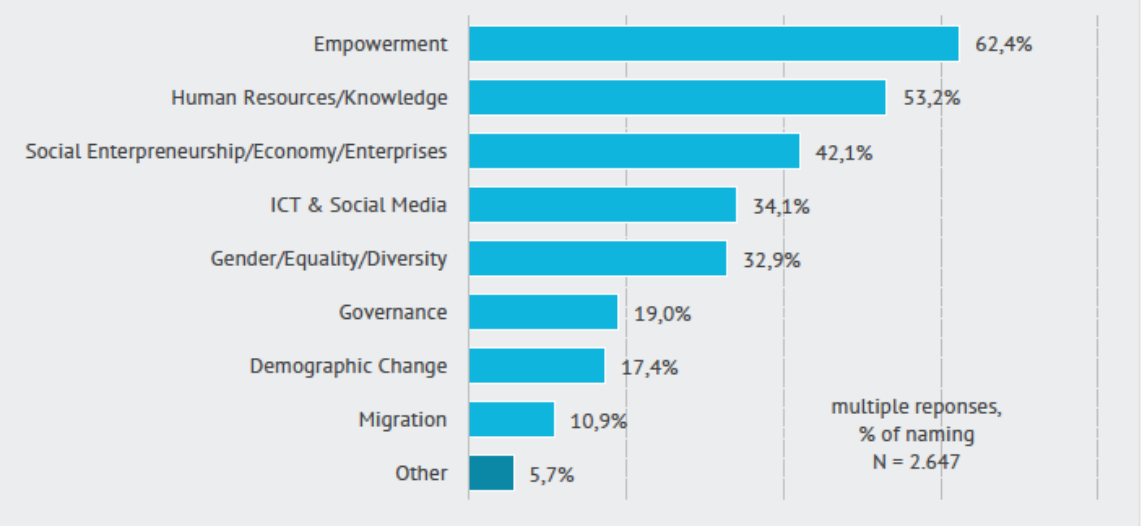

Figure 8: Cross cutting themes addressed by SI-DRIVE's cases

The outcomes and objectives sought by social innovation cases also reveal interesting patterns, though there is more diversity across the policy fields than with the cross-cutting themes, as illustrated in Figure 9. Of greatest importance seem to be objectives which focus on the individual and/or on small groups, as shown by grouping the number of case beneficiaries (called customers in some cases), as well as empowerment, legitimation/recognition and attitude change. Economic objectives are next in importance, shown by grouping outcomes at the individual level of employability and economic welfare, as well as at the organisational level

with growth of the company or project, efficiency and cost reduction. A group of outcomes with social objectives comes next, including social welfare, quality of life, inclusion and social cohesion. One in seven of the cases has significant environmental objectives.

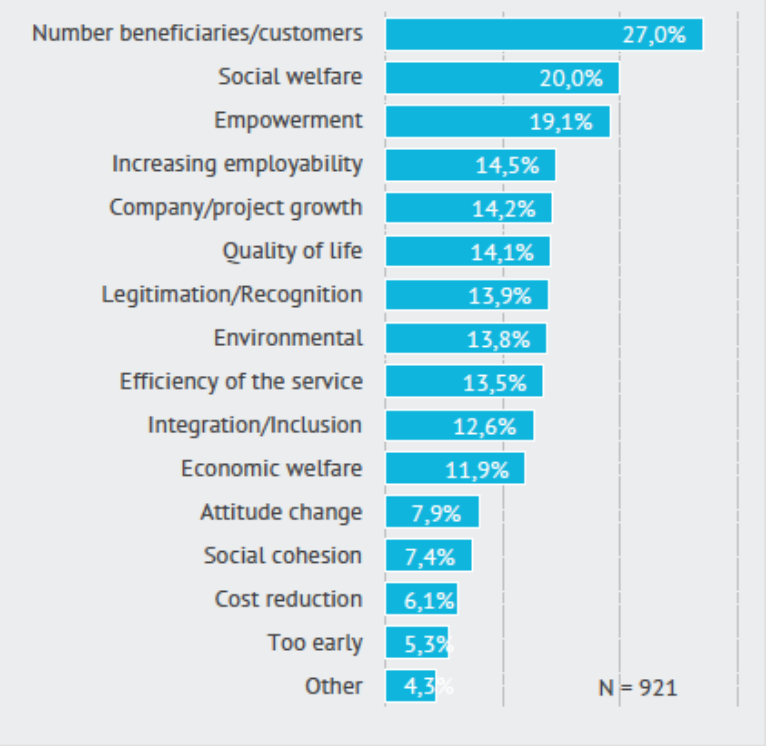

Figure 9: Outcomes sought by SI-DRIVE's cases

When it comes to the three BEPA levels at which SI-DRIVE cases place their objectives, the following patterns are observed (see Figure 10):

- **Social demand:** 70% of cases, with Health and Social Care as well as Poverty Reduction and Sustainable Development strongest at this level;
- **Societal challenge:** 61% of cases, Environment and Energy Supply are strongest here;
- **Systemic change:** 32% of cases, Education and Environment are strongest here.

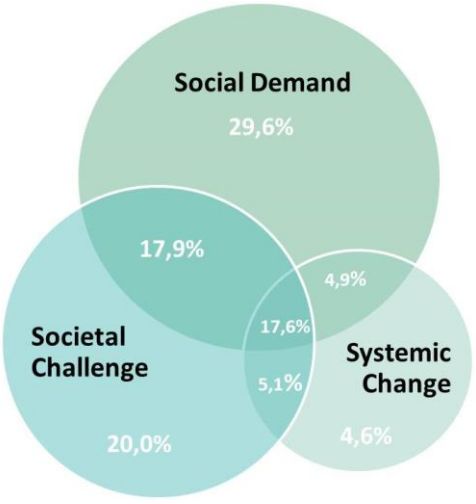

Figure 10: Levels addressed by SI-DRIVE case objectives

Although all three levels are very well represented, it is clear that most social innovations focus on the two lower levels. Referring to other data from the SI-DRIVE database, these objectives are more relevant than other, more intrinsic or instrumental ones: having an inspiring new idea (28%), a policy incentive like a policy programme or strategy (18%) or a social movement focusing on specific issues (15%). Being able to take advantage of new technologies, for tackling social problems, serves as a first motivation or trigger for 23% of the cases. Hence, the majority of social innovations can indeed be considered demand and challenge oriented.

As Figure 10 shows, almost half of all cases (45%) address more than one level, whilst 18% address all three. However, in the majority of cases the survey was only able to address aims and aspirations of social innovations rather than their actual outcomes. There would be a benefit in examining these cases, the extent to which they have been successful, and if so how this has been achieved. For example, do such cases start at level one and then progress up the levels, or vice versa, or are there other or indeed no patterns to observe?

Looking at the levels addressed in the different policy fields, the main focus is on specific social demands, except for "Environment and Climate Change" as well as "Energy", both of which have more orientation towards overarching societal challenges. This result is also reflected in the feedback from policy workshops highlighting the dominant practices: e.g. cooperatives and well-connected neighbourhood initiatives in the field of energy supply mainly have specific objectives which go beyond concrete and local social demands. Further, although systemic change plays a smaller role compared to societal challenges and social demand, there are differences in the importance of all three levels across the policy fields. For example, in "health" (83%) and "Poverty Reduction and Sustainable Development" (78%), most social innovation cases aim at satisfying a social demand. In both policy fields, social innovations clearly deal with the real, concrete needs and demands of individuals and small groups at local level. In contrast, "Environment" (72%) and "Energy Supply" (87%) are more focused on tackling a societal challenge, which mirrors the recognition of climate and environmental issues in the UN's and EU's priorities at the meso level. Cases in "Education" (48%) and "Environment" (46%) strongly address systemic change at the macro level. This is noteworthy and may, again, reflect political programmes and stated priorities, but may also hint at current institutional and systemic failures to deliver solutions in these fields, thereby opening up space for Social Innovation. The level of systemic change is less important for "Employment" (19%), "Transport and Mobility" (20%), and "Energy Supply" (25%).

In sum, the SI-DRIVE database evidence from all 1,005 cases shows a significant degree of overlap and interrelatedness between the seven policy fields.

- Among the cross-cutting themes, empowerment, human resources and knowledge are the most important in rank order and mainly are linked to agency. They are followed by economy/entrepreneurship, ICT, gender, equality and diversity. These themes link mainly to outcomes. Governance plays a part in 20% of cases and links mainly to structure.
- Among objectives, the most important ones focus on the individual and small groups and hence are mostly linked to social needs and agency, especially the agency of beneficiaries.
- Economic, social and environmental outcomes link to the meso level of societal challenges.

Considering the three BEPA levels it is noteworthy that although 63% of cases address more than one level, the most common levels addressed in rank order are:

- Social demand (70%) - links mainly to agency as defined above
- Societal challenge (61%) - links mainly to outcomes as defined above
- Systemic change (32%) - links mainly to structure as defined above.

The above analysis shows that social innovations are demand and challenge oriented but do not necessarily aim for systemic change. This may be realistic considering the dimensions of their operations. To further explore the relationship of Social Innovation and Social Change, the SI-DRIVE project has explored 82 cases of Social Innovation in more depth based on document analysis and interviews with social innovators, stakeholders and participants, as well as relevant results from the database of 1,005 cases. This is the subject of the next section.

3.6 SI-DRIVE CASE STUDY EVIDENCE

For the case study analysis, research teams used the compilation of nine mechanisms of Social Change compiled by Wilterdink (2014). These mechanisms have varied roots in structural-functionalist, evolutionary and conflict-based social theory but provide useful sensitising concepts for case study analysis and comparison, as briefly characterised in the following (see Howaldt/Schwarz 2016 for a full explanation):

1. **Learning:** New knowledge, both tacit and codified, empowerment, capacity building and absorptive capacity.
2. **Variation:** Novelty, new collective ideas, values, beliefs, fashions, culture, behaviour, including as influenced by policy.
3. **Selection:** Adoption, diffusion, imitation, decline and death of initiatives, demand, necessary actions and complementary innovation.
4. **Conflict:** The struggle between existing and new ideas, for example the class struggle.
5. **Competition:** Improves the likelihood of innovations, maybe leading to competitive advantage in the pursuit of self-interest.
6. **Cooperation:** Innovation systems, game theory, altruism, trust networks, social movements, institutional structures, leadership.
7. **Tensions and adaptions:** For example, the gap between fast technical and institutional change, and tensions within society.
8. **Diffusion of (technological) innovation:** Driven by societal challenges, widespread demand and necessary actions, including the role of technological and scientific innovations, as well as contextual beliefs, ideas, values, religions and complementary innovations, however most innovations fail whilst successful ones tend to follow the S curve.
9. **Planning & institutionalisation of change:** Goal-directed, policy and planning imply the institutionalisation of change, although the institutionalisation of change does not imply planning; institutionalised change leads to Social Change.

The annex at the end of this chapter provides a synopsis of how these mechanisms of Social Change vary across the policy fields. In order to develop testable hypotheses and possible contributions to Social Innovation theory development, these mechanisms can be placed into three groups for comparison and synthesis purposes with the following rationale:

1. Input and process mechanisms consist of the inputs and basic processes Social Innovation needs and generate to address societal needs and challenges and thereby affect Social Change. Learning, variation and selection are considered input and process mechanisms.

2. Driver mechanisms consist of the drivers Social Innovation needs to produce the outcomes that address societal needs and challenges and thereby effecting Social Change: conflict, tension/adaption, competition and cooperation are mechanisms that drive Social Innovation.

3. Structural mechanisms consist of the wider structural changes Social Innovation needs to address societal needs and challenges and thereby effecting Social Change: diffusion of innovations (including technological innovations) and complementary innovation, planning and institutional change can be considered structural mechanisms that enable wider impact.

In the following, we explore the highlights of commonalities and distinctions between policy fields in the salience of the respective Social Change mechanisms (for more detail, see Ecker et al. 2017).

Input and process mechanisms

The mechanisms of mutual learning, knowledge generation and sharing, and the variation and diversity these provide are highly important in all policy fields. This includes both formalised and informal inputs and processes. Learning and sharing incorporates cultural, belief and value systems that are especially significant in local contexts. These are important for developing the agency and empowerment of actors - particularly of the targeted beneficiaries of social innovation initiatives – and in the process, through learning and sharing, beliefs and value systems may evolve. Given the wide variation and diversity, not only of contexts but also of the

multiple social needs typically faced by beneficiaries, holistic approaches that recognise the multifarious needs of the whole human being predominate. However, in the policy fields of "Education" and "employment", learning on both the individual and organisational levels also feeds into more economic purposes of improving labour market access and employability of individuals, and the competitiveness and profitability of businesses. A job or a successful business may, in turn, provide more than just economic benefits: improved quality of life, sense of self-worth and further opportunities for learning and empowerment.

In some of the policy fields, e.g. "Poverty Reduction and Sustainable Development", we found that civil society and other non-profit organisations have a distinct role in enabling learning: they help to integrate across silos, across sectors, and/or bring together the multiple actors needed. Civil organisations often are best placed to orchestrate this, whilst more entrenched public bodies, philanthropies and even companies find it harder. It seems that civil organisations often are more trusted by the beneficiaries, have greater local knowledge and are more nimble - they act, in effect, as 'trusted third parties' towards both beneficiaries, public authorities and other stakeholders. In other, more institutionally dense policy fields, such as Education, Employment and Energy, they are in a position to overcome or circumvent institutional blockades or systemic inadequacies of established systems, and thus create variation.

Learning and variation provide the inputs to various processes in which social innovations are selected. This occurs through adoption, diffusion and imitation. Selection can include formalised processes of testing and experimentation before pilots and projects are implemented. In almost all cases, this result in incremental innovations which are relatively slowly built bottom-up by civil organisations and other locally based actors in specific contexts to address particular social demands. Incremental innovation also results from more top-down processes framed by regional or national authorities, corporations and/or by relatively large scale philanthropic or civil organisations. In these cases, incremental innovation creates a quite stable and standardised system. In "Education" and "Employment", established systems of both markets and public authorities, perform the functions of selection: graduates of employment programmes get hired, products of social enterprises are bought, degrees are awarded or skills are recognised and certified. We find that in various contexts, markets and authorities may be more or less supportive of social innovations. Imitation (Howaldt/Schwarz 2016), "the sincerest form of flattery" (Oscar Wilde) may be intended by social innovators or not, and in fields where commercial and bottom-up initiatives interact, such as "Mobility" or "Energy", social innovations may be insourced by more incumbent actors. Some examples of more radical and even disruptive innovations are, however, found, usually in the context of fast changing situations and crises where more risky and dynamic 'innovation on the run' is required in order to address rapidly changing social needs, such as in the displacement and refugee case studies examined in the Poverty Reduction and Sustainable Development policy field.

Driver mechanisms

Based on the SI-DRIVE cases, the implementation of Social Innovation tends not to be significantly driven by conflict. Actors generally tend to emphasise problem-solving and collaboration over conflict, although there are some areas where it can be important. A key conflict across policy fields, for example in cases addressing environmental sustainability and also the practice field of "income support", is found between incumbent actors with their institutionalised business models, markets and regulations, on the one hand, and social innovators who aim to change production and consumption patterns, thus changing power relations in the field, on the other. This may also take the shape of conflicts between old and new paradigms, cognitive frameworks and modes of thinking. The practice fields of "repair and recycling" and of "'alternative food production" contend with mass production, mass markets and (selecting or excluding) large retail chains. Decentralised or collective energy providers contend with large utilities, whilst car manufacturers invest in socially and economically innovative mobility services and partnerships. Social innovations in "Employment" often do not explicitly address the classic conflict of capital and labour rather attempt to find an overlap of interests and needs for collaboration, or transform this into dialogue in workplace innovation. In Energy, Mobility, Heath and Poverty Reduction, there can be conflicts between old incumbent and new product and service providers, or, sometimes overlapping, between small/local/community-based and big/hierarchical or commercial players. Beneficiaries' trust in incumbent or new providers and arrangements can be a bone of contention in such conflicts.

Tensions, leading to adaption, often play a similar role to conflict but are more related to society-wide issues, such as policy and regulatory systems, as can be seen for instance in Mobility. Social innovations in Education, Employment, or Health may struggle with their institutional environment by 'repairing' failures of governance in

mixed economies or compensating the consequences of austerity policies in developed welfare states. Tensions then result from broader societal changes, for example the rise of renewables in energy, demographic change in health and care, and increases in poverty and inequality often due to austerity measures. However, the emphasis on tensions and conflicts respectively as drivers for social innovations is also a matter of researchers' different theoretical outlooks and sociological interpretations. The notion of social innovations as responding to societal challenges may have a kind of 'natural' affinity with the logic of tensions and adaptations as it suggests a somewhat functionalist approach in which societies adapt themselves to perceived necessities – that are, as we argued in section 1.4, inherently social, and can indeed be considered consequences of previous Social Changes.

Competition rarely has a strong role in the social innovation cases examined. It is clearly relevant in the few instances where an important market context exists, for example, in developing and using new ICT solutions or when commercial or public funding is significant, as can be seen in some Education and Employment cases. In Health and Social Care, competition can be important, e.g. between different care models and the market players involved, as well as in helping to reduce costs and whether such models are in the public or private domain. Here, competition and conflict may merge in struggles over professional and institutional domains (for example those of health and social services, or doctors and care professionals), even (and especially) if social innovations aim to overcome professional specialisms for a more holistic and patient-centred view as in the practice field of "integrated care".

Cooperation is, however, by far the most important implementation driver, both amongst the actors involved in a specific social innovation, as well as through the wider networks the innovation draws upon and/or contributes to. It is typically seen as a precondition for success across all policy fields, for example in Environment and Climate where the sharing of scientific and technical knowledge as well as the implementation of good practices is essential. The high significance of cooperation is also demonstrated by the fact that many cases expend efforts and resources to remove or minimise the barriers to cooperation. For example, in "Health and Care" where it can be held back by lack of motivation or entrenched professional interests amongst some actors so that incentives need to be put in place.

Most policy fields get a cooperation boost from charismatic leadership by champions or other key individuals or organisations that can provide energy and vision as well as practical support. However, evidence from the database also shows that almost half of all cases across most policy fields also directly involve the beneficiary in some way. Both approaches may not be mutually exclusive. In the Poverty Reduction policy field, almost all cases prefer to use the term inspirational leadership. They seem to be wary of charismatic approaches which occasionally have done some damage when the individual concerned leaves the scene or takes a wrong path which others follow, perhaps without too much thought. In this policy field there does seem to be even greater focus on directly building the agency of the beneficiaries and relying on their 'leadership' and ownership of an initiative. This is similar to Education where initiatives also report little evidence of charismatic leadership. Although clearly, inspiring educators and founders play a part, many initiatives in the field are indeed bottom-up and collective, and we also encountered a certain habitual mistrust in the concept. Inspirational leadership also reflects better the emerging concept of 'quarterbacking innovation' in which a trusted individual, or more often a civil society organisation as discussed above, plays an essential integrative and supportive role, bringing together and galvanising other actors, but without itself leading from the front and taking the main credit for progress (Danish Technological Institute 2017; Andrews/McHale 2014).

Structural mechanisms

The diffusion of cases, either through scaling of the initiative itself or the transfer of its approach and lessons elsewhere with effects beyond the original case, is generally regarded as a valuable outcome, although the success of such diffusion is often quite varied. New technology can act as a basic condition and/or support for the development and implementation of social innovations, as well as for new forms of knowledge (e.g. within Environment, Energy, Mobility) but also as a problem (e.g. Energy). ICT is specifically relevant in "Employment" as well as in "Mobility". Complementary innovation plays a crucial role in "Poverty Reduction", for example in exploiting more traditional technologies, research and integrated solutions, in the context of professionalization and the support of organisations and beneficiaries. Here in particular, evidence exists of successfully scaling social innovations by organisational growth and with the support of the initiative's networks, particularly when the innovation becomes institutionalised in the wider environment and when supported by a benign policy framework. In this practice field, transfer is also successful and again relies on capable and professionalised

organisations and very high levels of networking and institutionalisation, for example through multiplier effects, franchising, etc. Often such diffusion is strongly supported by complementary innovations beyond Social Innovation as such. In "Mobility", for instances, broader technological and organisational innovations can be important, and in "Energy" market and business model innovations are significant.

The diffusion of ICT and other new or appropriate technology innovations is highly important across almost all policy fields. This is the case in "Education" as ICT also is valuable for communication and dissemination, and in Health as in the move towards personalised approaches or monitoring for preventative purposes. However, in Education and Employment, ICT is not often emphasised as an independent driver. ICT use in management, social media and learning may be taken for granted already without gaining independent momentum. Again, Poverty Reduction goes somewhat against this trend, possibly because of this policy field's focus on poverty where the relatively high cost and low awareness of ICT can preclude it from taking an important role. However, in European cases in this policy field, ICT tends to be more important given that cost and awareness are less significant as barriers, but also in some specific types of Social Innovation in some developing economies. An example of the latter is in tackling the displacement of persons where mobile ICT is often used to provide real-time and locally precise information and communication for both the beneficiaries and social innovators in situations that are fast changing and fluid.

Planning and institutionalisation are also highly important structural mechanisms across most cases studied. Institutionalisation through existing or changing policy and regulatory frameworks, as well as more informally through ways of working and thinking, positions a case towards meeting societal challenges and/or effecting systemic change, at least to some extent. In Education, institutionalisation is often successful if the existing formal education system is permissive and enabling. The success of social innovations in less permissive systems is contingent upon their capability to change the system. Similarly, in "Employment" initiatives tend to be successful when rules and regulations are highly permissive, but if this is not the case, as with restrictive labour regulations, institutionalisation tends to be more difficult. In contrast, in "Environment", institutionalisation is typically successful at the organisational, soft governance and case level, without much connection to overall policy and administrative structures. Such structures also tend to be less important in "Energy" and in "Mobility"; however they also can have both positive and negative impacts related to their level of permissiveness. Likewise, "Health and Care" cases often function successfully outside national systems, although policy priorities can be important in creating adaptions and Social Change.

Again, "Poverty Reduction and sustainable development", perhaps because of its very broad focus, is somewhat different. The role of institutionalisation varies depending on whether the case is mainly top-down within an existing and largely permissive structure, or mainly bottom-up where the structure is either absent or relative hostile. Almost all cases in "Poverty Reduction" are strongly focused on giving agency to beneficiaries on the ground and only then, if successful, attempt to tackle and change structures which are not conducive, or even hostile, or have created the problem a social innovation is addressing in the first place. The variety of cases in this policy field provides examples of cases that exhibit either more formal or more informal institutionalisation, or both. All these types apply not just to the variety of roles the public sector can assume but also to the roles of non-for-profits, companies as well as civil organisations.

This evidence sheds some light on (most) social innovations' limited ambitions to effect systemic change in their respective contexts. They are aware that systemic changes are contingent upon their respective institutional environment, and institutional and political environments vary in their degrees of openness to social innovations. It appears that most social innovations take place in, and indeed require, a permissive policy and institutional environment, whether this permissiveness is intentional or not. Active interventionist support by policymakers and institutions is less frequent. However, some do indeed receive such active support, whilst others can also survive in an inhibiting environment. In the latter case, conflicts and tensions often occur with the inhibiting environment that can restrict success and/or limit and adapt the aspirations of social innovations to the institutional manoeuvring space they perceive. In other cases, inhibiting institutional configurations may be circumvented by keeping initiatives in a pilot stage or on a local level, by aiming for changes in attitudes or norms, or through incremental take-up through the provision of alternatives in the "green" policy fields of "Environment", "Energy provision", and "Mobility". Prioritising the empowerment of individuals and the generation of knowledge may also be a way of both satisfying social demands and increasing options bottom-up, without confronting the existing policy or institutional environments directly.

The integrated report across policy fields (Ecker et al. 2017) finds "a pattern that can be generalised: successful, scaling social innovations are characterised by their compatibility and connectivity (in a non-technical sense) with their institutional and also cultural and normative environments. This implies a certain incrementalism. As social innovators ensure support, engage stakeholders and create networks, they may shed the more disruptive or transformative aspects of their Social Innovation. (…)There appears to be a trade-off between the possibilities of local, specific and targeted social innovations and institutional compatibility, unless top-down policies deliberately open and support spaces for creating and sustaining variety" (p. 26).

Other relevant results from the SI-DRIVE cases related to the mechanisms of Social Change are provided by an examination of the case biography development trajectories. Both the "Education" and the "Poverty Reduction" policy fields found evidence leading to very similar conclusions, resulting in three types of model:

- Continuous growth model - this is typically related to relatively large and stable government and/or other funding within a conducive policy structure and where the initiatives' objectives overall are meeting their intended outcomes. Referring to the above discussion on the structural mechanisms, the cases characterised by continuous growth tend to be those experiencing active interventionist support by policymakers and institutions, where this is available over at least the medium term and/or where the structures within which the social innovation operates already enable the innovation or are deliberately changed to do so.

- Step-by-step or stage model - this is typically characterised by two to three main stages separated by slower or no growth, or sometimes even by short-lived retrenchment. This tends to be due to financial, political or other serious problems, albeit short-lived, where there is little or no direct interventionist support from policy structures, at least during the slow-down, but where the case objectives overall are meeting their intended outcomes. Referring to the above discussion on the structural mechanisms, the cases where a step-by-step or stage model can be recognised tend to be those experiencing a generally permissive and enabling environment from policymakers and institutions, whether this is intentional or not. However, the fact that active policy or institutional interventions are not available or only take place piecemeal means that such social innovations are mainly left to fend for themselves, so that significant new risks or barriers when they arise need effort to overcome.

- Up and down, wavelike, alternating success and failure -- this is mainly due to very fast changing dynamic contexts directly affecting the social innovation and which the social innovation is attempting to address. In these cases the policy structures may be neutral or benign but normally are not hostile, at least over the longer term, and where the case objectives overall are meeting their intended outcomes. Referring to the above discussion on the structural mechanisms, the cases where a wave-like model can be recognised tend to be those experiencing a generally permissive and enabling policy and institutional environment, whether this is intentional or not. However, the wider environment is relatively fast changing and disruptive, for example through significant economic, technological or demographic events and movements. The fact that these social innovations survive and continue over at least the medium term, although some do not of course, reflects their ability successfully to manoeuvre and negotiate such dynamic changes.

3.7 INTEGRATING THE MODELS

We can integrate the models of BEPA, social theory of structure and agency on the micro, meso, and macro level, and the mechanisms of Social Change in the light of the empirical evidence from SI-DRIVE. Figure 11 outlines a hypothetical model that should not be read in a deterministic way, but rather as a chart of elective affinities between elements of the various models.

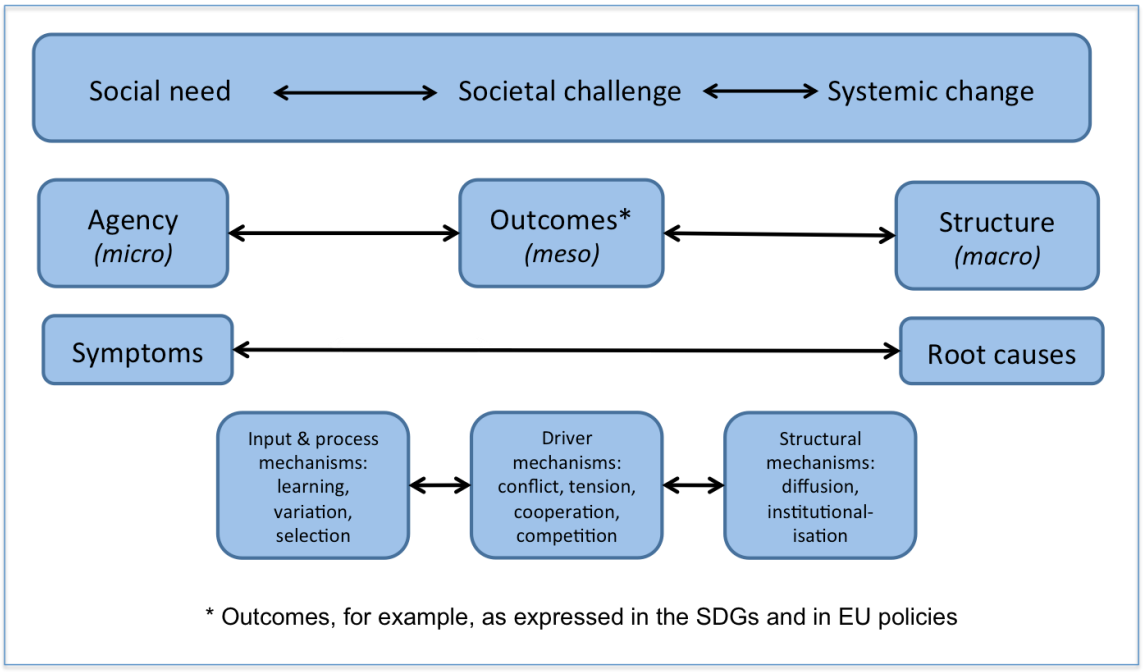

Figure 11: Agency-outcomes-structure model and possible alignments

BEPA's trilogy of social demand, societal challenges, and systemic change corresponds with the micro, meso, and macro level of social analysis that address individuals and social groups, organisations and institutions, and societies, or societal systems at large. On each level and between levels, social structure and agency interact – and indeed, this is the way in which social demands, societal challenges and systemic change come about. Nevertheless, in the field of Social Innovation - with its institutionalised logic models - the limited time horizons of projects, and politically negotiated expectations, agency appears more prominent on the micro and meso levels, whereas the level of systemic change appears to be shaped by weightier and more durable social structures. Social innovations as analysed by SI-DRIVE - tend to concentrate on the "lower" levels, meeting social demands, building agency on the individual and organisational level, and meeting societal challenges in this way. Thus, they tend to focus on outcomes – for actual beneficiaries, and leave the wider impact somewhat open. However, 32% of social innovation initiatives that address systemic change are still a notable minority. However, SI-DRIVE has shown that social innovations can also form different 'practice fields' (such as car sharing, micro credit systems, or community capacity building) in which new social practices converge, bodies of knowledge develop and some institutionalisation occurs (Howaldt et al. 2016). Since the majority of social innovations appear to favour the micro and meso levels, on the meso level, practice fields (in some analogy with innovation networks) may be able to generate the critical mass to bring about farther-reaching systemic change over time, as nuclei of institutionalisation and/or professionalization.

The mechanisms of Social Change examined in section 1.4 can also assist in understanding the relationships and movements between the three BEPA levels, thereby providing insights on how the societal needs and challenges these levels address are produced and, in turn, on the links between Social Innovation and Social Change.

1. **Input and process mechanisms** tend to be focused largely on the agency of innovators and beneficiaries, on the symptoms as expressed through social needs and the micro level: learning, knowledge, variety and selection are all extremely important elements in the development of agency. social innovations tend to address the development of agency and empowerment in a joined-up, rather than piecemeal, manner in order to cope with the multiplicity of social demands. Most cases illustrate incremental innovation, generated mainly bottom-up but which can also be initiated top-down, where the role of strong collective actors, that is civil society organisations as 'trusted third parties' joining together with other actors, is often critical. This type of Social Innovation addresses the meso level of organisations and networks, forming coalitions of collective actors. There are a few radical and even disruptive

innovations - mainly in situations of both rapidly changing needs and rapidly changing contextual conditions. These may require participants and beneficiaries to abandon and unlearn previous routines and practices. Variety may also be an outcome of learning, when more capable and empowered actors will be able to generate more variety. Selection occurs either through dedicated procedures, for example of evaluation and experimentation or through the respective institutional environments – it is thus located on the meso level where the political question is negotiated of how institutional, market and policy environments react to social innovations.

2. **Driver mechanisms** tend to be mainly focused on how outcomes are produced to meet objectives and thus connect the micro and meso or even macro level: Cooperation is by far the most important driver and often a precondition for success. In this context, charismatic leadership is often seen as important, whilst in some cases, perhaps those with the strongest focus on developing agency, beneficiary leadership with inspirational partners and peers is mentioned as more important. Conflicts are emphasised less and occur mainly in terms of old versus new paradigms, products, or services or in terms of incumbent versus new providers. Tensions tend to derive from more general, societal wide contexts that also include those intended or unintended systemic changes that contribute to the generation of societal challenges and social demands which in turn require Social Innovation in the "repair" mode. Competition occurs in cases which have a strong market element or compete for public resources. In the conducted case studies, respondents rarely referred to conflict and competition and cooperation as not just being a driver for Social Innovation, but an influential social norm. Social innovators, addressing demand and challenges in fields where markets and bureaucracies failed, are almost by definition exploring niches and avoiding competition. However, there is a competitive element in their dependency on policy support, for resources and also for time and attention by policymakers, participants and the wider public.

3. **Structural mechanisms** tend to be focused largely on the structure, root causes and the macro level: diffusion, scaling and transfer are important success criteria for all cases, but not all cases scale or expand. Diffusion is often also supported by complementary innovations and by ICT, other technologies or business models. Planning and institutionalisation are critical, especially for addressing structural issues. This can take place in both formal and informal structures of the institutional and policy environment which, depending on whether they are responsive, benign, neutral or hostile, can significantly affect the success of social innovations.

3.8 DISCUSSION AND CONCLUSIONS

An overview of SI-DRIVE results in relation to addressing societal needs and challenges demonstrates three well-grounded findings. First, social innovations are primarily devised and implemented to solve an immediate social problem or provide for a tangible social need. This requires specific conditions as social innovations aim to activate, foster and utilise the full innovation potential of the whole of society. This is, at base, a two-pronged strategy: 1) the need for conducive or supportive societal structures ranging from more formal policy and regulatory frameworks and appropriate funding to widespread softer governance issues and systems of thinking, belief and ways of living/working; and 2) also for new forms of participation and collaboration, co-creation and user involvement, empowerment and human resources development. This essential duality, although it may not be unique to Social Innovation, certainly marks it out from more traditional business/market and technological innovations. It picks up on the distinction of agency and structure, albeit in a more processual way: social innovations need to develop both agency and structures conducive to their development, which in the process may reproduce or change the social innovations themselves. However, social innovations mostly focus on the micro level of meeting social demands and solving local problems and the meso level of addressing societal challenges, rather than putting systemic change on their agenda.

The second and third findings from SI-DRIVE, relevant to the current chapter, are that institutional environments have the power to support the growth of social innovations or not. So far, most cases rely on permissiveness rather than active positive intervention by policy or public administrations. "An innovation is therefore social to the extent that it varies social action, and is socially accepted and diffused in society (be it throughout society, larger parts, or only in certain societal sub-areas affected." (Howaldt et al. 2014, p. 151). Since social innovations

are generally dependent on resources (people, funds, space and time), and legitimacy from their social environment, they need to be compatible with that environment's absorptive capacities. Change thus is two-sided: social innovations change their institutional, social and cognitive environment through the agency of all involved, and their respective environment – through the agency of all involved – changes the social innovation. The same applies to non-changes: some practices, rules and institutional ensembles are inert, resistant or hostile. Authors from the CRESSI project conceive of this two-sidedness as an area of tension: public policy "can be understood as a product of the interrelations between institutions, social networks and cognitive frames, whilst [Social Innovation] seeks to change field dynamics" (Nicholls/Edmiston 2017) in the respective field of policy or practice. With this interpretation, current policies are likely to select and favour social innovations that do not overly challenge their respective fields – at the cost of limiting aspirations and potential positive impacts of Social Innovation.

Generally, many policy field reports on the case studies conducted by SI-DRIVE confirm that the societal and governance systems, in which the social innovations are embedded, are complex and the problems addressed are deeply rooted in established practices and institutions. In terms of agency, SI-DRIVE results in particular reveal the capacities of social innovations to modify or even re-direct Social Change and to empower people, individual persons, groups and networks as the main and most important force driving Social Innovation which is highly dependent on these actors. This clearly points to the need for active user or beneficiary involvement which has been shown in almost half of the social innovation cases in the SI-DRIVE database. With given time horizons and the strategy of SI-DRIVE, our samples mostly represent somewhat established, successful and visible cases of which two thirds do not have systemic change on their immediate agenda. This supports the analysis of Westley et al. (2014) that in order to effect systemic change, organisations pursuing Social Innovation need to make considerable and non-trivial changes themselves: "It involves reframing the problem, adopting a mind-set of system change, and re-evaluating the organization's role in addressing the identified social problem" (ibid., p. 23). Practice fields, when they institutionalise, may form the nuclei of such transitions.

However, there is another aspect to systemic change. Such changes also generate societal challenges and demands and may indeed lie at their root causes. For example structural roll-out or roll-back of welfare systems and political objectives almost always have profound effects and/or provide active framing conditions for Social Innovation - again, structural changes are both enabling and constraining agency.

The focus of social innovations on actual demands and challenges may thus be connected with systemic changes in more circuitous and indirect ways than the BEPA levels or the more managerial approaches to 'transition management' (see Howaldt/Schwarz 2016) would have it. Social needs and societal challenges mainly manifest themselves in local or specific contexts. This requires the curation of beneficiary agency and beneficiaries' direct involvement in meeting their own challenges, or at least being important actors in this, including through targeted awareness raising and advocacy amongst the beneficiaries themselves. This often focuses more on what can be done, given local resources, aspirations and existing capacities using a holistic approach, rather than piecemeal problem solving that is generally much less effective in developing the agency of beneficiaries. Meeting social demands in this way, agency of beneficiaries is built up simultaneously, and involving them further, the social innovation can develop in ways that widen impacts beyond what can be observed in the comparatively short time horizons of a typical project.

These findings and observations suggest a three-part model of agency-outcomes-structure that offers a set of hypotheses that are underpinning how Social Innovation addresses societal needs and challenges. Thus, we distinguish:

1. A micro level strategy to build the agency of innovators and end-users, which tackles the on-the-ground symptoms of societal needs and challenges largely from a bottom-up perspective, and directly engages the beneficiaries in meeting their own needs.
2. A meso level strategy between agency (micro level) and institutional structure (macro level) through building adequate organisations, networks or modes of collaboration (i.e. collective action), that connect the micro and macro levels through a focus on pursuing the objectives of the social innovation to produce real, desirable outcomes.

3. A macro level strategy to change institutional or systemic structures by tackling the (root) causes of societal needs and challenges, largely from a top-down perspective, and changing the underlying framework structures which often cause the need in the first place.

In the present context, the second strategy derives from the hypothesis outlined in section 1.2, not always to start from specific societal needs and challenges but instead to focus primarily on the outcomes and impacts of a new observed practice. No matter whether new practices of social or institutional action aim at changes at the level of local demand, societal challenge or systemic change, it is the real outcome and/or impact they have on the lives of individuals and communities of smaller or larger parts of society that makes them innovative and qualifies them as social innovations. Good examples of this are found in the "Poverty Reduction and sustainable development" policy field where the case studies provide strong evidence that fewer social innovations than expected start by attempting directly to meet a specific societal need or challenge. Instead, just as often social innovations focus initially on the opportunities, manifested in specific contexts, and take a 'multi-opportunistic' approach. In other words, actors start out with what is possible given the aspirations and capacities the beneficiaries already possess (Appadurai 2004). This is significant because such needs and challenges are often multi-dimensional (there are so many of them) and they can also mutate over time. Thus, focusing only on a very specific 'problem' at one point in time may not be very successful.

For example, a social innovation run by a civil society organisation in northern Ghana saw an opportunity to use the talents of local inhabitants possessing some basic education by training them as so-called 'barefoot' teachers that provide basic literacy and numeracy skills to children in nearby villages. However, they quickly realised that one of the keys to this was to work on changing local power structures through wide and painstaking consensus and capacity building, particularly by empowering women in village life. From this, in turn, other complementary innovations are being enabled, such as involving women in local entrepreneurship schemes and supporting local radio stations and media productions as job opportunities for some of the locally educated youth. This example also illustrates the need to address, as far as possible, some of the structural root causes, in this case local power structures and the role of women, in order to meet a number of social needs. Indeed, in the Poverty Reduction policy field some cases, like the one above, are abandoning the traditional 'problem solving approach' and use more relational approaches like Appreciative Inquiry, Theory of Change and Outcome Harvesting, all of which start from what is and what aspirations already exist, rather than what might be 'missing' (Millard et al. 2017).[5]

This has some clear implications for European as well as global policies and the institutionalisation of social innovations – a process that is underway but by no means given. Immediate scaling up is not an obvious path for many social innovations, and the logic of economies of scale may not always apply. Generating wider societal impacts is a legitimate aim of many social innovators, but impact is rarely contingent on the social innovation alone, but on complementary innovations and the responsive and absorptive capabilities of institutions and policies around them. So far, many social innovations appear to benefit from permissive or passively accepting environments with limited interventionist support. This clearly is better than hostility, but may contribute to locking social innovations into local, small-scale and niche structures (Edmiston 2016). Without more detailed analyses of cases and their environments, indeed reconstructing histories of social innovations in terms of socially constituted fields, power relations and histories, we cannot be sure whether social innovators tend to choose or be nudged into their understated and somewhat diffident approach to systemic change and wider impacts. Either way, putting the onus of demonstrating impact and scalability on social innovations alone in programmes and projects may direct their efforts away from what they are good at: holistically meeting social demands and challenges, building agency and knowledge, and forming coalitions – achieving impacts in more indirect and possibly less measurable ways than political programmes and institutionalised expectations would have it. Policy and institutional initiatives fostering social innovations and aiming for favourable systemic changes and transitions would thus do well to cultivate spaces for open-ended and varied initiatives on all levels as well as for connections between them.

[5] This trend has also been noticed more widely in innovation studies, as mentioned by Robbert Dijkgraaf (Director and Leon Levy Professor, Institute for Advanced Study, Princeton University, USA) at the European Commission Conference "Research and innovation - shaping our future", 3 July 2017, Brussels: "Most innovations don't come out of problem solving, but instead arise from dreams, visions and possibilities."

3.9 ANNEX: OVERVIEW OF SOCIAL CHANGE MECHANISMS BY POLICY FIELDS[6]

Policy field	Input & process mechanisms			Driver mechanisms				Structural mechanisms	
	Learning	**Variation**	**Selection**	**Conflict**	**Tension/ adaption**	**Competition**	**Cooperation**	**Diffusion (of technology) & complementary innovation**	**Planning/institutionalisation**
Education	• Holistic approach • Mutual learning & absorptive capacity • Path dependencies can be important	• High variety & diversity • Focused on needs not covered by formal system	• Mainly depends on connected-ness with formal system – formal system in position to select • Also on specificity of target group • Mainly incremental innovation	• Between different paradigms of what & how to teach • Also from who pays for follow-up costs	• When initiatives not compatible with formal system • And to perceived system gaps – also some creative tension	• No significance • Sometimes being first to market is important, e.g. with ICT & for funds, so smaller initiatives disadvantaged	• Very important • Networking often seen as precondition for success • With all types of actors • Charismatic leadership very important	• ICT important in some • But mainly for communication & dissemination	• Wide range both within (successful) and outside (some-times successful) formal education systems, as well as hybrids, often depending on "buy-in" by education system • Policy support highly important (incl. funding & regulation)
Work & employment	• Limited effect • Based on employment policy 'histories' • Much reinventing the wheel • Not shared due to competition and 'isolated' company policies	• Gradual build-up of effective improved ways • Some 'contagion' of ideas/idealist entrepreneurs • New combinations important, newness on local level sufficient	• Behaviour of initiators is crucial • Imitation & copying behaviour • Based on economic survival goals • Markets / customers doing the selecting • Mostly incremental innovation, some disruptive	• Classic conflict between employers & employees	• Forced adaptation • Decline of welfare state & shifting risks • Institutional renewal to fill a void • Difference of developed and less developed welfare states • 'Constructive destruction'	• Not a driver • Plays a role For funding and market success • In actors' self-definition Public value is more important than competition • Is crucial for economic survival	• An indispensable driver • Actors support initiators (not only financially) • Altruism and social responsibility are drivers • Organisational stakeholders cooperate	• Mostly limited to social media and communication technology	• No clear role, can be both positive & negative • Supporting rules and regulations (China, Russia) • Possibly some convergence of developed/developing systems on devolving responsibilities • Restrictive labour regulations

[6] Taken from conclusions sections of case study reports -- partners are invited to validate, correct, update, etc.

Policy field	Input & process mechanisms			Driver mechanisms				Structural mechanisms	
	Learning	**Variation**	**Selection**	**Conflict**	**Tension/ adaption**	**Competition**	**Cooperation**	**Diffusion (of technology) & complementary innovation**	**Planning/institutionalisation**
Environment & climate	• Initial low general knowledge but then learnt • Mutual & social learning then become important • Citizen empowerment important	• Important	• Mainly by individuals • Challenge to get take-up by established CoPs	• Some in relation to employment issues	• See conflict	• Much weak competition	• Of utmost importance • Mainly through huge variety of networks	• Tech role highly variable	• Low connection with policy & administrative structures • Mainly through soft governance at organisational & actor level
Energy	• Important • Knowledge from science, tech & legal sources	• Important	• Am to achieve impact • But not through bigger projects rather through imitation	• Strong between new & incumbent players	• Due to rise of renewables	• See conflict	• Some importance • E.g. by cooperatives & with governments	• Tech very important • Market & business model change • Some system & governance change	• Partial importance • Policy can be both positive & negative • Also some through professionalization
Mobility & transport	• Constant • Individual & personal • Learning by doing	• Very high • Both national context & collective idea important	• High dynamic • Many grass roots • Sustainable business models	• Little conflict • But some in vulnerable groups	• With policy & law makers • Some with established industry	• Limited • Lack of professional networks	• Important	• ICT diffusion • Need change in beliefs & behaviour • Complementary innovation very important	• Weak, except where is system failure • But impact from global developments (e.g. Uber)

Objectives: Social Demands, Societal Challenges and Systemic Change Addressed

Policy field	Input & process mechanisms			Driver mechanisms				Structural mechanisms	
	Learning	**Variation**	**Selection**	**Conflict**	**Tension/ adaption**	**Competition**	**Cooperation**	**Diffusion (of technology) & complementary innovation**	**Planning/institutionalisation**
Health & social care (No systematic summery in conclusion so overviews have been deduced from various texts in D9.3.)	• Important by replication, imitation, adaption & diffusion • Knowledge validation important to minimise risk • Learning more by innovator than user e.g. for more holistic approach • New ways of working • Personal responsibility needs more user knowledge	• E.g. to find new models and integration approaches	• Important for less complex integration • Through some experimentation	• Within existing healthcare service across countries, & between social values underpinning different health models	• Both adaption to context & context enables innovation • Due to demo-graphic change, need to reduce costs & frag-mentation & move to more prevention that incumbents don't like • Between old & new systems	• Significant role, e.g. reduce costs • Between new models of care • Important to show impact in both market & government systems • Between insurance companies	• Key mechanism • Sometimes held back by lack of motivation due to different aims • Also needs new relationships • Charismatic leadership sometimes important.	• ICT & other tech very important • Diffusion very important • Context highly important, incl. prevailing social values and 'buy-in' • Often occurs by adapting specific models	• Policy priorities can be important in creating adaptions & Social Change • Normalisation through service offerings • Sometimes need to work outside national system
Poverty reduction & sustainable development	• Very important varies by type of project: 1) large top-down standardized & more stable, low locational sensitivity, 2) hybrid, 3) smaller bottom-up less standardised & contextual, high locational sensitivity; affects how easy to share knowledge • Creates agency, empowerment & capacity building • Holistic approach	• Critically important especially in response to range of contexts & actors • Both formalised & informal contexts • Cultural, belief, value systems & religion also important	• Very important drawing on variations by type of project: 1) plus incremental innovation, 2) hybrid, 3) plus disruptive & radical innovation • These types affect project development histories incl. adoption, copying /imitation & diffusion	• Low inside often higher externally • Some bet-ween the poor & incumbent providers, & bet-ween new & incumbent providers • Mainly a barrier but can be driver spurring innovation	• Low levels (cf. conflict) • Mainly lack of trust between the poor & incumbent providers • Mainly with externals, less internally	• Low levels • Between new & incumbent providers	• Very important • Networking is key: building essential peer & professional trust &reputation-ion. formal & informal • Variable by type of project: 1), 2) & 3) • Inspirational leadership more important than charismatic	• Low importance of ICT generally, but can be for communication & dissemination • Very high diffusion in types 1) & 2), though low in 3) • Raising beneficiary awareness for agency & success of diffusion • Complementary innovation very important	• Very important varies by type of project: 1), 2) and 3), affects how easy to plan & become institutionalised • Both formal & informal, e.g. ways of thinking & working • Through all actors: public, philanthropies, private & CSOs • Both to give agency to beneficiaries & to 'support system/ structure change

4 RESOURCES, CAPABILITIES AND CONSTRAINTS

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4.1 INTRODUCTION

The potential success and development of social innovations is dependent on their access to resources, and their dealing with constraints and capabilities. For social innovators, the use and access to these resources is somewhat different than for technological and business innovators. A clear understanding of these differences can guide social innovators in developing strategies to better deal with resources and developing capabilities that eventually result in social change. Achieving social change needs a specific, theoretically and empirically underpinned approach. Considering the success of social innovations, this chapter will look into this underpinning, thereby elaborating which resources, constraints and capabilities function as leverage factors, and in what way.

The starting point for stressing the different approach to resources between Social Innovation on the one hand and technological and business innovation on the other is that social innovations often start in the civil society and in public policy, but hardly ever on markets. Civil society driven actions lack public and market funding. But what does this observation mean? One of the conclusions of the Critical Literature Review (Howaldt et al, 2014) is that civil society - as an innovation actor - is a widely untapped area, especially when it comes to questions about how resources are mobilised and used by actors of civil society in order to innovate. Therefore, "we have to put a strong focus on the role of civil society (citizens, non-governmental and not-for-profit organisations (NGOs, NPOs) social movements, communities) in the innovation process. In particular, we should analyse how the social innovation cases in SI-DRIVE have diffused and whether this facilitated the empowerment of citizens" (Howaldt et al. 2014, p. 150). "Like technological innovations, successful social innovations are based on a lot of presuppositions and require appropriate infrastructures and resources. Moreover, *social innovations* are requiring specific conditions because they aim at activating, fostering, and utilizing the *innovation potential of the whole society*" (Howaldt et al. 2016, p. 2).

Resources, constraints and capabilities are a relevant part of the SI-DRIVE pentagram (the five key dimensions, see figure 3) and to a great extent related to other key dimensions: actors and networks, governance structures, civil society or citizen engagement, user and volunteer involvement and the embedding of the social innovations in policy programmes, networks, umbrella organisations and social movements. Resources, capabilities and constraints are also related to cross-cutting themes defined by SI-DRIVE, e.g. (1) funding, financial resources and regulations, legal conditions, (2) human resources, knowledge, empowerment and (3) scientific research and obtainable results (comprising external expertise for the development, professionalization and diffusion of social innovations). Let us first summarise what we mean with resources, constraints and capabilities.

Resources and constraints can best be dealt as interconnected topics. Having too little resources is clearly an important constraint for a social innovation. Social innovation often starts with individual citizens or representatives from public or private institutions that are trying to establish new practices and social change. They are, for example, persons wanting to address a particular societal challenge or find a solution for a (local) social demand, wanting to bring about social change. The first and most important resource is clearly *human resources*, i.e., the collaboration and cooperation of people, as without them nothing would happen at all. Successful social innovations represent intrinsically motivated people, peers or networks of people, who succeed in gaining the support of significant others, such as civil society, volunteers, professionals and sometimes policy agents. Another interconnected crucial resource is the presence of *financial funds*, that largely determine a successful start-up and, after that, a successful sustainability or scaling up of the social innovation initiative. The difference with technical and business innovations is that social innovations rarely have sound economic business cases to make them sustainable. Clearly, without sufficient funding, social innovations often disappear after a while. Many social innovators are personally driven and motivated by *societal challenges* (as for instance in environmental issues) or *local or individual demands* (as in the case of Poverty, Health, Education for example). This personal drive is in itself not a resource but an interrelated motivator, a necessary condition.

Constraints are the lack of qualified personnel, sufficient political support and a restricting legislative environment, besides the earlier mentioned limited amount of funding. But these constraints for social innovations are very much related to regional, cultural and governmental frameworks; they vary within the different policy fields. Social innovators need to overcome these constraints, and not always are they well equipped to do that.

Capability, our third term, can be defined at the individual but equally at the organisational level. Theoretically, using individual capabilities to achieve new goals is central to deal with any kind of issue. The capability approach (Sen 2001; Nussbaum 2011) is an economic theory whose core focus is on what individuals are capable of. Sen (2001) relates capabilities to development economics and poverty issues and discusses political issues regarding the human freedom of choice, empowerment, and a person's quality of life. The capability approach can connect quite easily to Social Innovation, since social participation and well-being in life needs to build on deploying human talents and competencies. As such, this stream of thinking suggests that any performance is more than being measured by financial or economic indicators, as seems the case in the narrow views of neo-liberalism. Capabilities are the foundation of how humans participate. Social Innovation, focusing on public and social values rather than economic values only, could apply the capability approach as a way to alleviate social problems, under the condition that people are provided sufficient means for social participation and economic development. Capabilities at the individual level overlap in great deal with "people as a resource" for Social Innovation. When talking about capabilities for social innovations, we mainly focus at the organisational level and not so much at the individual level. The term *capability* then refers to a business' ability to use its processes in order to marshal its resources and thereby attain desired innovation objectives (Ottaviano 2004). According to Hadjimanolis (2003), some key capabilities to innovation are technological ones, such as the capability to produce ideas, to develop them into products. Other skills are marketing and service skills, legal skills to protect intellectual property, the ability to network, to form alliances and to span inter-firm boundaries. According to Lawson and Samson (Lawson/Samson 2001) - beside the fundamental vison and strategy of an innovation - competences, culture and new technologies are sources for innovation capabilities that are closely related to the SI-DRIVE philosophy.

For this section, the guiding question is: From our conceptual understanding and from our empirical results, which resources, constraints and capabilities are used and how do they help to initiate, implement, scale, diffuse and institutionalise social innovations?

We want to develop this understanding by comparing resources for product driven innovations with resources needed for social innovations. To accomplish this, three steps are needed: (1) an overview of what innovation studies have to say about the role of resources; (2) defining the components for a strategy to deal with sourcing resources and developing capabilities; (3) presenting the main resources and capabilities of the SI-DRIVE's mapping results. Our analysis also will show what a Social Innovation friendly environment may be constituted of (including a social innovation ecosystem). Key words in this respect are governance, capacity building, and empowerment.

4.2 WHAT CAN WE LEARN ABOUT RESOURCES FROM INNOVATION STUDIES, ECONOMIC INNOVATION, AND SOCIAL INNOVATION STUDIES?

Innovation studies, business innovation and Social Innovation studies are our starting point for assessing the use of resources and capabilities as well as existing constraints for social innovations. These conceptual approaches deliver us classifications with (more or less) relevance for SI-DRIVE. They give us a first understanding of the difference in use between different types of innovations. We will start with an external perspective (comprising innovation studies, business innovation and Social Innovation), and elaborate in a second step on our internal theoretical, empirical and policy related SI-DRIVE results. We need to understand how these resources are embedded in the context of the policy fields and different regions, taking into account different acting levels (local, national, global/regional). From this analysis, we can look at the contours for the strategies social innovators can use in relation to resources, improvement of capabilities and reduction of constraints.

(a) Lessons from innovation studies, technological innovation and Social Innovation studies

The Young Foundation (Murray et al. 2010) categorized four main barriers for social innovations: access to finance, availability of scaling models, insufficient skills and formation, missing networks and intermediates. These barriers also exist for innovators in general. Any type of innovator has to deal with a shortage of resources, limited amount of capabilities and a major set of existing barriers. This is no difference for innovators of new technologies or products as for social innovators. There are, however, general differences between these innovators in terms of accessing resources and capabilities and in the ecosystem that support these innovators. These differences need to be understood when social innovators create strategies to make their social innovations more successful. To bring this understanding, we have used a typological approach in table 1, to clarify some basic differences between technological and business innovations on the one side and social innovations on the other.

	Technological/business innovations	Social innovations
Funding	Private funding, public funding support; huge amounts of money, high investment for future competitiveness, return on investment Shareholder value	Mix of funding sources: social capital, own funding, public funding; sometimes often only small amount of money, own other resources (e.g. time, support), sustainability and social value in the foreground instead of return on investment Public and social value
Networking and collaboration	Closed, proprietary; also crowdsourcing and open innovation	Open, public and co-creation, knowledge of the crowd, user involvement
Number of partners; knowledge resources	Limited, specialised	General, open, heterogeneous, networking
Outcomes	Private, appropriated by limited number of persons, driven by economic value, competition, return on investment	Public results, impact central, driven by social value, collaboration, social return on investment
Ecosystem support	Well defined ecosystem of funders, knowledge (without integration of civil society) National Innovation Systems Strongly acknowledged by policy Central role of research and development / universities	Incomplete ecosystems (no full support systems in place, but strong involvement of civil society); made by chance Weakly acknowledged by policy Undeveloped and recently minor role of universities
Driver/motivation/ stimuli	Market, profit, technology driven (development of technology because it is possible)	Societal challenge and (local) social demand driven, technological development to solve a problem
Target group	Economic, buying customers	People of limited means who can hardly afford to pay for it

Table 1: Basic differences between technological/economic and social innovations

Of course, in reality these differences are somewhat exaggerated. Social entrepreneurship on the one side and the recent development of innovation studies (e.g. open and public innovation, co-creation are also elements of the new innovation research) and propagating the integrative innovation approach are blurring the boarders between these two differentiations. However, social innovations cover a broad spectrum of funding, partners, contexts and outcomes; depending on the demand and its specific solutions. For each of these elements, technical/commercial and social innovators experience differences in dealing with shortages in resources and capabilities.

Funding: the focus of the companies is more on constraints in their functioning than capabilities. According to Silva et al. (2007), constraints to innovation can be classified according to three different factors:

1. Economic factors: economic risk, high costs;
2. Company internal factors: lack of financing, organisational rigidities, personnel and knowledge gaps, missing technological possibilities and know-how, inefficient market information;

3. Regulations, insufficient support from National Innovation System (NIS), lack of customers' responsiveness.

Social innovators will also have to deal with such constraints. The resources of social innovators are also related to their own social capital. We need a better understanding of what supports and hinders the development of 'social capital' by social innovators and the civil society: How do supporting networks for social innovators work in practice? "Inter-organizational collaboration is a way to increase the capacities of organizations and to apply leverage to existing resources so as to solve social problems more effectively by pooling together resources, skills and knowledge" (Harrisson 2012). The funding part for social innovators will therefore always work differently than for commercial innovators. *Enablers* for Social Innovation are a match between innovation objectives and user needs, a strong management support, adequate innovation funding, a clear organisational benefit from its innovating activity (profit/return), customer/user participation, clear objectives as to what to innovate as well as an appropriate incentive system (Orcutt/AlKadri 2009). Orcutt and AlKadri (2009) further emphasized communication, empowerment of people.

Networking and collaboration: social innovators will require a broad network and alliances of partners for developing impactful solutions. This requires, in contrast to the narrow focus of commercial innovators, new participation and collaboration structures, a more comprehensive co-creation and user involvement (e.g. civil society, beneficiaries, users as active partners in the solution process), empowerment and human resources development. Attention has to be paid to the invention itself, its development as well as its diffusion and imitation (Tarde 2009). Networks and collaboration are not only relevant for the invention and implementation but also for scaling and diffusion of successful social innovations. Appropriate resources are necessary to stimulate not only to market new inventions but also to start imitation and diffusion of social innovations, to foster new social practices and social changes, better coping with societal challenges and social demands than before.

The development methods of both types of innovations will be very different. Technology and commercial innovators probably can partly rely on project management methods. Their strategy should involve employees in the innovation process, as in workplace innovation and employee engagement approaches. Social innovators need a specific focus on concepts and approaches such as the theory of change and appreciative inquiry: "[…] their relevance for the processes of Social Innovation, in particular the bottom-up, self-driven and self-controlled practices involved in which traditional development paths are shunned or revised based on what the community itself sees as its most important assets and goals. Indeed, these approaches are largely about the process of change itself, where goals are often identified during rather than prior to the process, and the recognition that these processes are rarely linear but instead have many feedback loops that need to be understood within the context of experimentation and social innovation" (Millard 2014, pp. 45). Furthermore, design thinking might be appropriate to foster the role of civil society through living experiences and change-oriented capacity building (Schaper-Rinkel/Wagner-Luptacik 2014).

Number of partners; type of human resources: technological and commercial innovators rely on the quality of teams of specialists to develop and implement their innovators. They include end-users only afterwards or to a limited degree, if at all. The reality of social innovators is quite different. Not only more actors are required in the different phases of the innovation process, the type of engagement is different. Dufour et al. (2014) identified practice conditions facilitating or hindering the implementation of a social innovation by stressing the low quality of training and support, collaboration, and organisational problems such as voluntary participation, staff instability, and collaboration within existing structures as well as individual constraints such as decreasing motivation, lack of professional skills. Not only that. Power relations and control forms, administrative burdens, aversion to risk and failure of the public sector innovations and participations are mentioned by Chapman (2004) as system failures for social innovations. Problem complexity, the lack of networks and intermediaries (connection of social innovation initiatives to established networks), protection and risk aversion (conservative decision making) are claimed by Chalmers (2012).

Beside networks, actors and institutions "*knowledge intensity*" is one of the main building blocks for Innovation Studies (tacit and implicit knowledge, differentiated knowledge bases, and knowledge dynamics). For instance,

National Innovation Systems (NIS)[7] are seen "as a system of interconnected institutions to create, store, and transfer the knowledge, skills, and artefacts which define new technologies" (Butzin et al. 2014b, p. 108: Metcalfe 1995 cited in OECD 1999). NIS are systems of forming, spreading knowledge and combining knowledge, be it internal, implicit, or external, they are "structures for dealing with knowledge". Even we know that social innovations lack sufficient "knowledge input", this factor remains an important resource and driver. Increasing knowledge intensity is also mentioned by Stehr (2007, p. 65) for economic activities and actions (Butzin et al. 2014b, p. 112). Knowledge is seen here as the most important input factor for innovation. In terms of a functional consideration of NIS, functions that are relevant in dealing with knowledge (across institutions) are in the foreground (generating, acquiring, spreading, regulating, applying, using knowledge)" (Howaldt/Schwarz 2010, p. 12). The role of knowledge as a driver of innovation development and imitation, transfer and diffusion is evident (Butzin et al. 2014b). Additionally it has to be stressed that knowledge is dynamic, context-specific, time and space depending (Nonaka et al. 2000, p.7; Butzin et al. 2014b, p. 112). It is therefore important to observe that the comparative analysis showed the underrepresentation of universities and knowledge institutes as partners in the fields of Social Innovation (Howaldt et al. 2016).

Outcomes: the outcome of the innovation process is not the same for social as for technological/commercial innovations. For technological/commercial innovations, the end result is mainly characterised by a more (economic) value creation. Social innovators, in contrast, are focused on social impact and social value (new social practices), profit being not the main driver. New ways of developing and diffusing social innovations are necessary (e.g. design thinking, innovation labs etc.) as well as additional far reaching resources in order to unlock the potential of Social Innovation in society and to enable participation of the relevant actors and civil society.

Ecosystem support: resources, capabilities and constraints are closely related to the *eco-system and infrastructure* for social innovations (and the related practice field). This is "(…) corresponding (to) rationalities of action and regulation mechanisms and the associated (…) problem solving capacities" (Domanski et al. 2017, p. 15). Appropriate supporting structures are relevant to exploit the potential of social innovations (p.16). Related to networking different roles and functions of innovation actors are emphasized in innovation studies, namely the Triple Helix (public, private, research) but also Quadruple Helix (adding civic and societal actors) integrating the influence of society in innovation performance (Butzin et al. 2014b, p. 107). Companies can build on well-developed networks to support their innovation process. As shown in innovation studies, national and regional innovation system research (Fagerberg et al. 2005; Butzin et al. 2014b) it is evident that successful (technological) innovations are based on a lot of presuppositions and require appropriate infrastructures and resources.

This is also evident for social innovations, but while there are a lot of technological oriented innovation studies there is a lack of research on these preconditions in relation to Social Innovation. And yet, social innovations require specific conditions because they aim at activating, fostering, and utilisation of the innovation potential of the whole society, just to name users as solution providers, comprehensive integration of beneficiaries in the innovation process, and empowerment of people involved. Alongside civil society, the social economy is an environment equally often mentioned as an important source and driver of Social Innovation. It is thus suggested to pay particular attention to the environments of civil society and the social economy (Scoppetta et al. 2014) in order to understand their particular distinctions. Studying these distinctions is of special relevance for public decision makers, as it provides the relevant background against which supporting infrastructures can be set up (Howaldt et al. 2014, Research Focus 8).

As the TRANSIT project reveals, "social innovations use specific and characteristic types of resources. They mainly benefit from labour, time and creative effort that is offered, whether on a voluntary or reciprocal basis. In both cases, this is, in the perspective of the formal economy, surplus capacity that is otherwise unused. Many of the organisations struggle to find and secure financial resources from external actors to cover small, but critical, fixed costs of base-level operations. Requirements for impact assurance from funders are understandable, but an assured base-level of funding is critical to the sustenance of the initiatives. If Social Innovation is to produce

[7] According to Metcalfe (1995), a national innovation system can be defined as the „[…] set of distinct institutions which jointly and individually contribute to the development and diffusion of new technologies and which provide the framework within which government form and implement policies to influence the innovation process" (Metcalfe, 1995). This perspective "[…] highlights interactions and interfaces between various actors and the workings of the system as a whole rather than the performance of its individual elements" (OECD 1999).

greater levels of social impact it must be better and more reliably funded. Money is well-spent in sustaining core operations as this avoids disruption and frees the organisations to do what it does best, deliver social benefits, and gives scope to raise more resources for additional activities of interest to impact investors in respect to base-level (fixed) costs. A good way of funding core costs is to pay social innovation initiatives from money saved from the public purse thanks to the initiative. Tools such as Social Return on Investment (SROI) can enable initiatives to undertake such calculations." (Kemp et al. 2015, p. 27)

(b) Strategies for social innovators: learning from others

The comparison between technological/commercial and social innovations revealed that it will be important to build on a broad set of factors to develop social innovations. The TEPSIE project recognised different types of barriers to be overcome:

- *"'Vicious circles' and 'traps' of innovation dynamics*: e.g. entry barriers to entire new activities, growth, scaling and diffusion challenges, cooperation problems with other stakeholders and sectors;
- *Action and actor related barriers*: cooperation and coordination problems, under resourcing, organizational failures, conflicts of interest of the participating stakeholders and their institutions, agency failures like missing financial and other resources."

Incubators (like BENISI and TRANSITION) are focusing on resources, capabilities and constraints mainly for scaling. Beside financial they also stress human resources being of high relevance (skills and time, coaching and capacity building, networking, peers support and connecting, understanding of local framework and context (Davalli et al. n.d.). For achieving more impact of social innovations, we can learn from the SI-DRIVE results (see Howaldt et al. 2016 and 2016a, chapter 4.3.2) that social innovators need to consider the following issues for their innovation strategies:

- Based on the variety and high number of partners, diverse funding and support possibilities are possible and necessary (see chapter 4.3.2 Figure 13) to succeed in the implementation and impact as well as institutionalisation of the initiatives.
- Because of the far going development of the initiatives, organisational institutionalisation on the local level is already far reached (shown by the participation of partners from all sectors, embeddedness in overarching institutions etc.), this is also reflected by a yearly budget (Howaldt et al. 2016a, chapter 4.3.2b), employees, etc.
- Because of the high orientation on embedding civil society and all the relevant stakeholders, a high number of persons are and have to be engaged in the initiatives (employees, volunteers, external advisors, and others) (see Figure 12 below).
- Knowledge and funding gaps (see Howaldt et al. 2016, p. 20) are a main problem until the initiatives are institutionalised in accepted and diffused social practices.
- Empowerment is based on a quantitative participation of civil society, users, beneficiaries and a qualitative integration of diverse know-how of the different partners (mutual learning).

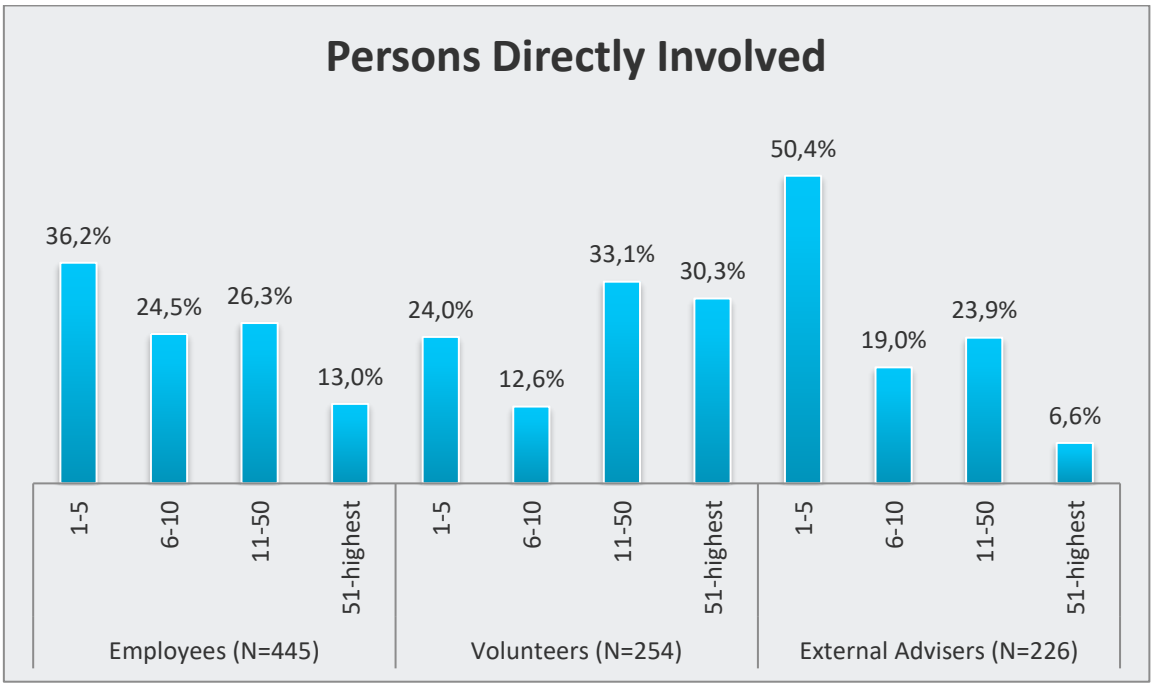

Figure 12: Number of persons, directly involved in the initiative (employees, volunteers, external advisers)

We can learn from Swedish policy recommendations for Social Innovation (Hansson et al. 2014, p. 10) to successfully develop and establish an ecosystem in which barriers for upscaling are overcome, success is enabled and capabilities are increased. Not only do we need to focus on resources, stakeholder and ecosystem collaboration, further we need to stress the role of knowledge and empowerment:

- Develop diversified funding possibilities and customised financial support systems as well as financing research on critical perspectives on Social Innovation.
- Finance competence development that is needed for the facilitation of complex co-creation processes.
- Support co-production of knowledge between stakeholders and increase knowledge exchange between actors in the Social Innovation ecosystem.
- Support competence development to support social enterprises and social innovations within the established innovation and business support systems.
- Further expand the knowledge of and possibilities of measuring the social and environmental impact of innovations.
- Develop existing and new models for interaction and knowledge creation between civil society organizations, public sector, academia and private companies.
- Increase formal and informal education on Social Innovation.
- Encourage knowledge exchange and co-learning between challenge-driven educational models.
- Promote civil society's role and position in innovation, encourage and strengthen democratic and inclusive innovation processes to anchor change processes among the multitude of citizens and stakeholders affected by them.

4.3 WHAT CAN WE SEE IN PRACTICE?

Several of our SI-DRIVE project activities help to shed light on how social innovators deal with resources. We gather the outcomes of the State-of the Art Compiling Report, the Regional Report, the Global Mapping Comparative Analysis, the Case Study Compiling Report and the Policy and Foresight Workshops under the following headlines:

1. Human resources
2. Financial resources
3. Organisational capabilities
4. Dealing with constraints

Combining the quantitative and qualitative outcomes of the global mapping and the in-depth case studies, we can learn about the recent situation of social innovation initiatives. Based on these results we will show limitations and potentials of explanation, which lead us to reflected and proved consequences for the framework of Social Innovation and future (social) innovation research (questions).

4.3.1 Human Resources: Intrinsic Motivated People, Leadership Style and Learning

Social innovations need motivated and active citizens. Our research shows which persons help drive the social innovations, which type of leadership style is effective and how these persons learn-by-doing.

Active citizens are not only needed to invent the innovation, but equally to drive the innovation. Citizens need not so much to be knowledgeable as scientific experts for technological innovations. These 'human resources' can come from everywhere. However, the scaling-up of social innovations require specific and diverse competences. Most failed social innovations look back at lacking competences of their initial promotors and actors. Sometimes this has to do with the fact that these actors have limited experience with pushing and growing their ideas. From the data of SI-DRIVE, we understand that most social innovations are in search for sufficient and the right human resources. More importantly, these human resources need to excel in two domains: a) connectedness to other networks, social movements, policy programs and umbrella organisations, and b) sufficient numbers of motivated people to help drive the social innovation. The bottom-line is that social innovators can be anyone: regularly paid employees, volunteers, external advisers or experts, and other supporting persons. And social innovators may even be beneficiaries. They all need to be motivated by the civil cause.

These facts are underlined by the mapping results. More than 60% of the initiatives with regular paid staff have up to ten employed persons and more than one third of the initiatives are supported by more than ten volunteers. About half of the initiatives are supported by up to five external experts and advisers. The average number of employees in fully scaled-up and established social innovations is 188, supported by an average of 1.068 volunteers and 39 external advisers or experts. This result differs between the policy fields. Due to the general variety of social innovations and the different contexts they are implemented in, the size of the persons involved is differing: more *employees* are engaged in initiatives in the policy fields of Poverty Reduction and Education than in the other policy fields. More *volunteers* are supporting innovations within Transport and Mobility and Environment, less in Energy Supply and Employment. External *advisers and experts* could be found more often in Education than in the other policy fields and other supporters are mainly found in Poverty Reductions and Health and Social Care.

Also the significant involvement of users or beneficiaries (in practice we could find that two of three initiatives include their effort) is typical for social innovations. Beneficiaries are a remarkable human resource as such; especially due to their personnel problem-related practical knowledge and experience (see Howaldt et al. 2016, p. 13)

The analysis of the mappings also reveals that *leadership* needs to be contingent. Start-ups and smaller social innovations rely greatly on charismatic leadership. Only such initiators are sufficiently concerned by the challenges lying ahead, and probably have sufficient connection to the concerned milieu. Larger social innovations rely more on "collective leadership" where the management structure is not so much depending on single persons.

The case studies reveal that mutual learning, absorptive capacity building and empowerment are highly relevant to develop the initiatives further and to attain sustainability. Mutual learning takes mostly place at the individual level of people involved and can also refer to the target group of the solution. Social learning of society actors and system players takes place through recognition, assimilation and implementation of new information and knowledge (absorptive capacity building). However, capacity building is often linked to the initiative itself and interrelated to "path dependencies of development" – as experiences from the past will inform actions in the

future. Capacity building (also for public institutions, system representatives) and empowerment based on learning results of the involved people create win-win situations for producers and users alike.

Capacity building of intermediary organisations and institutions is evolving, with the goal to cooperatively equip initiatives with the right skills, competencies and even resources to be successful (see our elaborations on incubators like BENISI and TRANSITION). In line with this and compared with the high engagement of science in technological innovations, the underdeveloped role of universities within social innovations has to be stressed. Universities could and should engage much more in supporting social innovations by knowledge provision and exchange, evaluation, new ideas, process moderation, advocacy for Social Innovation, (supporting) technological solutions, and others.

4.3.2 Financial Resources: Social Innovations are Depending on Diverse Funding Sources

With regards to funding, we need to look at four topics. Social innovators clearly have a complicated funding situation. We are talking here of private citizens that are starting a local, possibly limited initiative. This always means using own funding. But there are more sources to be harnessed. Secondly, we need to understand that funding practices may be quite different internationally. Thirdly, this diverse funding situation also leads to the use of diverse and specific business models. Considering all of these factors, fourthly it is clear that wanting to support social innovations will require specific approaches.

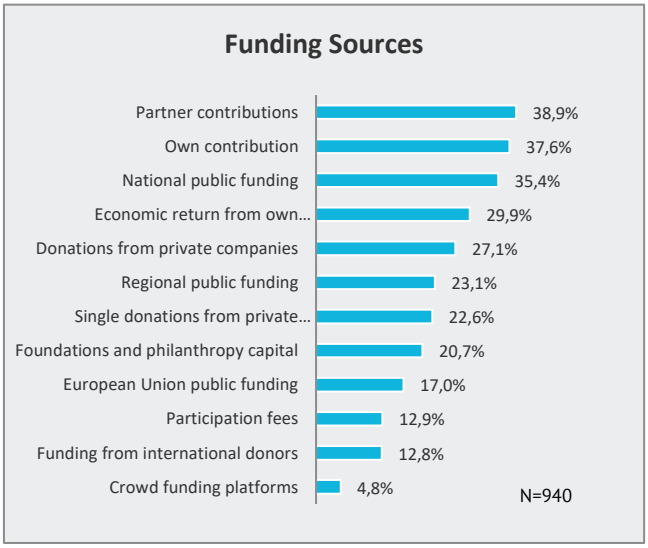

Figure 13: Funding sources

The global mapping reveals a wide range of different financial sources which form the backup of social innovation initiatives. There are differences in the budget the initiatives can deal with and a variety of funding sources. The main funding sources are internal contributions of the initiatives (own and partner contributions), supplemented by (European, national, regional) public funding. Civil society (foundations, philanthropy capital, international and individual donors) are also a highly relevant funding source. Social innovators sometimes rely on pay-back from own activities (economic return from own products or services, participant fees), and of minor relevance remains crowd funding. These sources result in a broad picture and highly diverse combination of funding sources. Social innovators are not relying on such practices merely as a risk diversification rather they have no other choice. They need to combine funding sources to help their initiative survive. Funding sources may vary across the policy fields. This is reflected in an evident way in Poverty Reduction and Sustainable Development in which almost every listed funding source is of relevance.

When the results are compared between the world regions, the main difference is that in non-EU initiatives donations from private persons, companies, international donors and foundations are by far more relevant as a funding source, while in European countries, national and regional public funding coupled to participant fees and own contributions are the dominant practices.

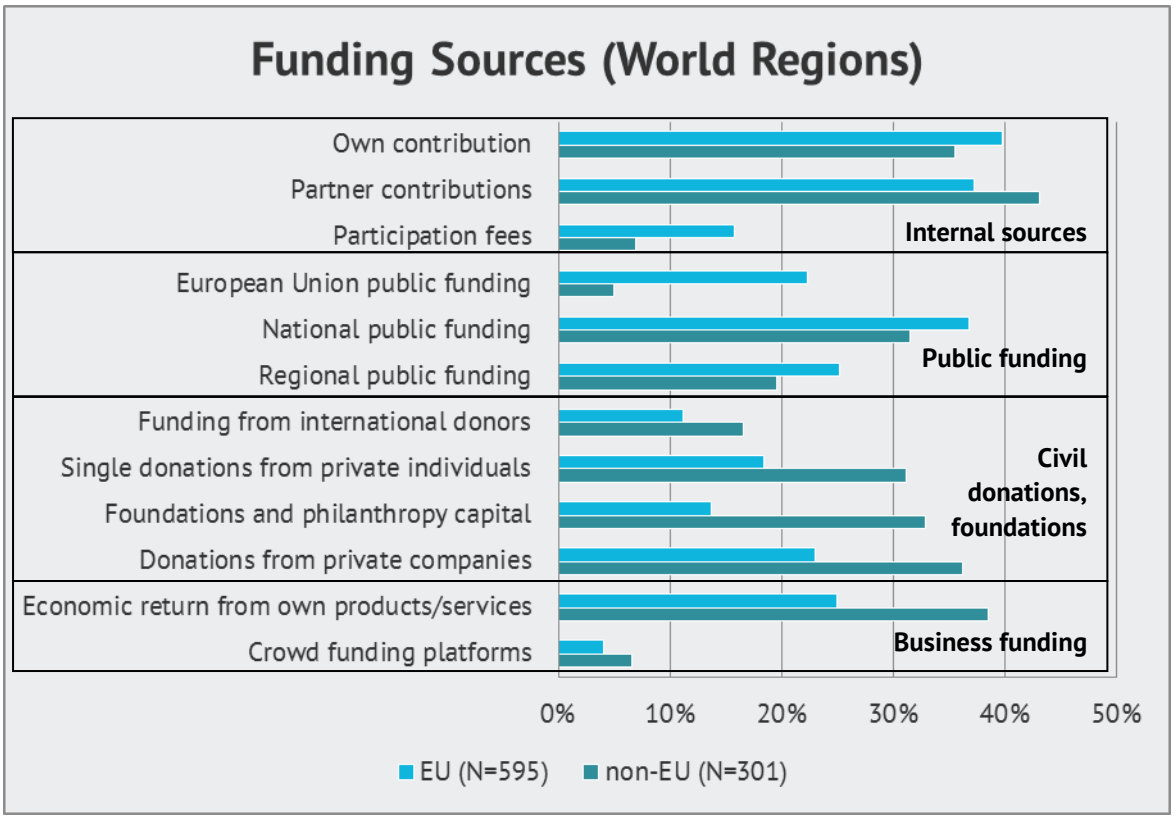

Figure 14: Funding source by world region

With these diverse funding sources, that are different from business and technological funding schemes, it is also clear that social innovators will be using a multitude of business models. As commercial competition with other social innovations is not in the mind-set of most of the initiatives, other business models are used by initiatives:

- Social enterprises (with not-for-profit revenue models),
- Initiatives embedded in corporate social responsibility programmes or measures (funded by companies),
- Hybrid revenue models (sponsored by sales, fees, etc.),
- Licensing models,
- Associations (funded by fees),
- Small business (market competition).

Social innovators also have to live with the fact that they will be competing with other initiatives for funding, as well as for human resources (public funding and support).

As a steady financial backup is still one of the main challenges for social innovations, innovators require an innovation friendly environment in this respect. Ideally, social innovators would require some kind of basic funding in the incubation phase. Local innovation laboratories for social innovations are helpful to get start-ups launched. In the upscaling and institutionalisation phase, social innovations require additional co-funding sources next to the existing participant fees and their own contributions. Of course, social innovations could benefit from exhibiting more "business" orientation and managerial capabilities. These resources are, as documented above, also a serious constraint for initiatives.

4.3.3 Organisational Capabilities: New Governance Systems

Social innovators are mainly driven by societal challenges and local social demands. Our mapping shows that for more than 60% of the mapped social innovations, these factors serve as motivation and drivers (see chapter 3). This is clear when thinking about general societal challenges like climate and demographic change, society's frustration of ineffective systems, measures and regulations, system and policy gaps and failures. Social

innovations want to solve these challenges. Local demands on social inclusion, labour and education, reduction of mismatches, are demanding new and innovative social solutions that are leading to new social practices – all demands push intrinsic motivated people of different sectors to take up their (civil) responsibility. An active civil society expects this. Social innovations are driven by a sense of urgency and pushing up the public and political agenda with social needs and demands that are not yet covered by the formal system.

To deal with these drivers, the organisational capabilities for social innovators need to be in place.

Social innovations need to be embedded in environments in which they can connect to important stakeholders. *New governance systems* or innovation friendly environments are needed, supported by an open government which is giving leeway for and fostering experimentation. As social needs and challenges can be regarded as wicked problems, connecting and facilitating collaboration between different stakeholders is of huge value. Networks also provide routes for sharing experiences and learning from best practice at a local, national and international level. Membership in relevant networks is regarded as very important and seen as advantageous and as a precondition for being successful.

Besides funding and a sustainable financial back-up of the initiatives, the *usage and taking up of new technological possibilities* is an important capability of a social innovation. The possibility of taking advantage of new technologies appears in a remarkable extent in every policy field, showing the relevance of technology in supporting and enabling social innovation activities: based on digitization, social media and mobile technologies as a mean for tailored target group and mass communication, as well as a new basis or complementary innovation for new social practices (e.g. electric cars for car sharing, energy supply). Technology and ICT have great potential to become an integral part of social innovations, especially in terms of communication, research, public relation and dissemination as well as becoming an integrative part of the solutions (assisting technologies in Education, Health and Social Care).

The case studies reveal the role of complementary innovation in the different policy and practice fields. Whereas *complementary innovations* in some policy and practice field are more of technological nature, others are related to the development of new business models that make social innovations more sustainable. Combining technological, economic and social aspects in an innovation process wherever relevant to solve social demands is an important capability, leading to effective solutions.

Integration with the dominant institutional setting is a capability easily overlooked. Selection, adoption, diffusion and imitation, and social change are mainly depending on the connectedness with the (formal) system in which the initiatives are embedded in (e.g. there is only low leeway of social innovations in education to act without a relation to the formal education system). Conflicts and tensions arise due to perceived system gaps. Institutionalisation and planning of social change is mainly dependent on the relation (acceptance, toleration or integration) to the formal systems. Anyway, institutionalisation and planning of social change are not elaborated systematically (e.g. due to missing managerial competences); an unlocked potential for diffusion and transformations is evident.

These capabilities are required in all social innovations. There are only minor disparities to be seen between the world regions in presence of capabilities. In general, no big difference between Europe and the rest of the world can be stated. The Regional Report of SI-DRIVE stated a common set of factors across all European countries enabling Social Innovation (Boelman/Heales 2015, pp. 5) while factors enabling social innovation in non-European countries are more often depending on the political situation, policy programs and the possibilities for civil society to act.

How can these capabilities be activated and supported?

An important leverage factor is to set up an innovative environment unlocking and fostering the capabilities of social innovations. Such environments let grassroots movements grow, supply means to find new ways of funding, and help to set-up support structures. The relevance of taking advantage of new technologies and sustainable business models, e.g. the Canvas business model (Osterwalder/Pigneur 2010), has to be made more evident. Universities and research centres should become drivers for Social Innovation (as they have access to technological innovation, they could exchange up-to-date knowledge, etc.). Only about half of the social

innovations are supported by *external experts* (see chapter 4.3.1). Science and research – and this is different from technological innovation –are not having a relevant role as a trigger or driver (this is underlined by the low number of involved universities and research institutions as partners of initiatives).

Governance of social innovations should be supported by open government, providing leeway for experimentation. In some respect political changes (e.g. structural reforms in the Eastern Europe and Western Balkan, Russian Federation), economic crises, constraints on public finances and the prevention of social follow-up costs have also led to *structural reforms* and the search for new, innovative solutions and mechanisms – leading to new participative and decentral approaches increasing the role of local communities, civil society and grassroots initiatives.

An innovative environment - established and supported by (new) governance structures and politics - needs a *supportive legislative environment* (giving 'space' for experimental innovations), especially concerning political support on the local level.

Especially in policy fields with a high degree of regulation by formal systems (like Education, Employment, Health), *new governmental structures* are needed: new leeway for experimentation done by an "'open government' which is itself embedded in broader open governance systems encompassing all of society's actors. In this context, the public sector needs to adapt its roles and relationships with these others actors" (Millard 2015, p.3).

4.3.4 Dealing with Constraints

The global mapping demonstrates that a variety of constraints for upscaling of a social innovation exists, mainly *focusing on the initiative* itself (level 1): lack of funding, lack of personnel, knowledge gaps. Although there is a mix of funding sources and funding is not the main driver (as mentioned above), *funding is by far the main challenge* of the social innovations. Against the background that empowerment, human resources, and knowledge are the main crosscutting themes of the social innovation initiatives, the appointed lack of personnel and knowledge gaps are relevant barriers as well.

Although legal restrictions and lack of policy support are not in the focus generally, the in-depth case studies show that they are very relevant for development and institutionalisation. Also the policy and regional reports reveal a broader problem setting, focusing on the (legal) framework conditions and mind-sets that hinder social innovation activities to unfold their potential (contested terrain). Again, open government is demanded, not only for experimental leeway but also for taking up the provided solutions of social innovations, integrate and flourish their social/public value by fostering, exchanging and institutionalising of new social practices in the (formal) system.

The following description of constraints illustrates the multifaceted obstacles the initiatives have to face as well as their strategies to overcome them.

Constraints	Challenges	Strategies
Funding	Lacking access to and time restricted dependence of funding and bank loans, unattractive interest rates, missing sustainable finance, cost expansions when it comes to scaling and diffusion, negative return on investment, low profit generation, and lack to finance relevant staff.	Looking for possible investors from any kind, public funding from different levels (EU, national, regional, local), searching for alternative financing sources (fundraising, crowd funding), applying to awards and competitions to receive publicity and additional funding, charging fees (from consumers, users, members), changing the financial allocation (within organizational structure, money spent on behalf of the beneficiaries, etc.), minimizing costs, development of new (public) financing policies, engagement in marketing and market activities, seeking new partner- and sponsorships, establishment of a new legal entity (to get access to specific funding opportunities).

Constraints	Challenges	Strategies
Knowledge gaps	Lacking capabilities and skills (esp. business and managerial, staff training and personnel development, networking and communication skills) as well as missing experience in economy, lack of professional knowledge (e.g. information technology and recruiting staff), difficulties to get access to required information, external expert knowledge is needed in some areas.	Building up skills and capabilities (upskilling and training, workshops, learning etc.), getting managerial training (e.g. administration procedures, business plan design etc.), knowledge exchange and connecting with other organisations, collaboration for learning, facilitating knowledge transfer, exchange and learning opportunities, buying in of knowledge, collaboration with external experts to gain specific expertise.
Lack of personnel	Insufficient number of staff and volunteers, lack of finance and incentives (working conditions, wages, etc.), difficulties in retaining qualified personnel, special treatments for some kind of employees (e.g. handicapped people).	Recruiting applicable staff and exchanging personnel with other initiatives or own partners (barter exchange: while the initiative often receives access to an organisation's employees and infrastructure, it offers its services in exchange), recruiting (more) volunteers (using media and networks), training and upskilling of existing staff, care or assistance for employees with specific needs, installing incentive systems (employer branding, attractive work, stimulating motivational aspects, imposing working standards), optimising the work flow.
Absence of participants	Missing acceptance and feasibility of the solutions for (some parts of) the target group, limited coverage of the problem related to the stage of the initiative, lack of awareness and reaching the target group, and lack of interest and publicity, popularity.	Awareness campaigns, app development for continuous integration of participants, implementation of communication about the project, services, and product and its solution potential, setting up a team to ensure proper communication to society, evidenced-based communication to overcome mistrust or scepticism in society, convincing the public of the effectiveness of solutions, incentivising participation, granting participants for their efforts and willingness, personalising solutions to specific target group as well as approaching specific target groups, broadening target group focus, collaboration with relevant stakeholders.
Legal restrictions	Access to financial systems (application for funding and bank loans are too complicated or not possible), too strict or not formulated standards (e.g. quality or safety standards), not given congruence or weak interpretation scopes to law and regulations ("grey zone"), necessity for new laws or regulations, and limited legal structures and possibilities to establish social enterprises or other organisation and legal entity forms of initiatives.	Imitation of good practice in order to comply with legal requirements, partnering with other organisations, dialogue with official authorities to negotiate favourable legal conditions, achieving or complying with given standards, creating new legal conditions for the smooth execution of the initiative's solution, finding alternative ways of operation if it is not possible to negotiate new legal framework conditions, using existing leeway possibilities

Constraints	Challenges	Strategies
Political support structures	Governmental coordination structures, corruption, lack of government contracts and funding, lack of political will and promotion, and other political priorities or problem ignorance.	Advocacy to influence government and politics in order to recognise as well as support and finance the solution, ensuring an overlap between political strategies and objectives with the initiative's own objectives and priorities; building networks, platforms and relationships for dialog, cooperation and partnerships at a political level; designing favourable policies for solution, using media as a tool to receive governments attention, especially if the problem at hand is not yet a political priority or the problem has been ignored.
Lack of institutional access	Not given acceptance by external parties; missing legitimacy, interest, practical support; no willingness to change (public) institution, ponding on institutional rationality (saving privileges, not willing to change internal structures and to take over additional or other tasks than the ones they are obliged to), and public bonds to established solutions (path dependency). Missing capabilities of governmental institutions to understand the potential of Social Innovation.	Establishment of and engagement in public-private-partnerships, engage in networks or platforms in order to convince institutions and advocate the legitimacy of the solution, collaboratively development of solutions with institutional integration, putting local demand in focus, public relation activities as a mean to access institutional support through awareness raising and attention making, accessing institutional support as a mean to give the solution a better backing by strengthening credibility and legitimacy.
Political opposition	Especially at local and regional level, doubts on the legitimacy of the solution cause political opposition, political disparities (not in the general solution but the implementation, etc.), and public bonds with incumbent solution.	Convincing politics by showing the effectiveness of solutions, regular and continuous information exchange and transparency, dialogue with the authorities in order to get support, building networks with stakeholders in order to build a stronger force against political opposition.
Lack of media coverage	Lack of publicity of the solution, lack of media interest; ineffective or no use of online tools, social media and networks, insufficient or not given collaboration with media, and no or week media coverage.	Active facilitation of diverse media channels, public relation campaigns, using in-house communication capabilities, cultivation of media relations in order to have access to media support when required (incl. usage of social media).
Competition	Establishment of similar or alternative solutions, either by other initiatives or the private market; price competition with private market solutions, and no competitive wages.	Adjustment, improvement or diversification of the products or services, strategical cooperation and partnerships, quality improvement, niche orientation, marketing activities.

Table 2: Constraints, challenges and strategies to overcome these

The *Regional Report* of SI-DRIVE (Boelman/Heales 2015, p. 5) identified a number of other factors which constrain Social Innovation and that are also relatively common across Europe: poor funding models, resistance to change and risk aversion, conflicts of interest and poor knowledge sharing systems (e.g. learning from failures, not reinventing the wheel new). Many countries in the Western Balkans and Eastern Europe identify legacies from previous political regimes which continue to constrain Social Innovation today: lack of volunteering culture and human capital, limited trust in social enterprises and the third sector. Especially the policy field of Poverty Reduction and Sustainable Development shows a widespread set of barriers additionally to the already described ones: poor understanding of the problems and their dimensions, high level of illiteracy in the regions, hindering legal and institutional arrangements, lack of will and poor political commitment, corruption and low transparency, patriarchy and structural inequality, cultural barriers, social norms and values resisting empowerment, habits and customs, regulations and policies, prejudices; poor government policy and local government opposition; market dominance (exploitation).

Additional factors constraining social innovations, especially in non-European countries, can be divided in political (centralised government, missing support, corruption) and economic factors (missing entrepreneurial spirit, lower capital and per capita income) as well as civil society awareness and engagement. But as already said, central government or system compatibility is a good example of being a constraint and a driver as well: If

the social innovation is in line with the government's policy goals, or not against it, it receives much policy support.

4.4 CONCLUSION

The main question for this section was phrased as, how do resources, constraints and capabilities function as leverage factors for initiating, implementing, scaling, diffusing and institutionalising social innovations? The SI-DRIVE project shows - for the first time - how social innovators are dealing with limited resources, facing many constraints and which capabilities are available to them.

Our analysis shows that social innovations have similar but different and more challenging properties in comparison to technological and economic innovations. Social innovations require substantial human resources, unlocking the potential of society as a whole for specific solutions (quantitative in numbers and covered sectors and qualitative in context related knowledge). Human resources, knowledge and empowerment are continuously developed by *mutual learning* of all actors involved within the Social Innovation process, leading to capacity building and new capabilities. *Empowerment* is an important result and a driver, concerning not only beneficiaries and innovators, but societal actors involved and even (parts of local) communities. Those initiatives - that provided information on their staff - have a quite respectable number of regular employed people, activating considerably more volunteers, and are supported by a number of external experts and advisers (as shown in Figure 12). This need puts the social innovators in a difficult spot: lack of personnel is one of the main barriers for upscaling. Secondly, all social innovators experience funding issues. This is also the case for other innovations; however in social innovations funding sources are quite diverse and more precarious. Social innovations are funded by different sources: own resources and contributions of the partners as well as public, civil and private funding. At the same time, the economic return from own products and services remains a relevant funding source as well.

We can find large funding differences between the different social innovations. The yearly budget of the initiatives (if they have one) varies a lot, ranging from small scale initiatives with up to 10.000 Euro to big established initiatives with more than 1.5 billion euros (and mainly more than 50 employees) available.

The main drivers are (local) social demands and societal challenges as well as individuals/groups/networks. Main barriers are the search for funding, missing (policy) support mechanisms, lack of personnel and (managerial) skills. But barriers and drivers are often related to each other. In line with the results of the SIMPACT project, barriers can become drivers as well: Depending on the context of the social innovation "every driver can feature as a barrier and vice versa" (see the four contexts of drivers and barriers in Pelka/Markmann 2015, p. 1). For example, the current education systems and institutions are a barrier for new solutions, however system failure and gaps could become important drivers for Social Innovation; or: public funding is a driver but being dependent on it can act as a barrier too (especially if funding is restricted to piloting project schemes). Capabilities and constraints of social innovations are mainly influenced by faced drivers (including motivation and triggers) and barriers, which are often mutually dependent and interacting (being "two sides of the medal").

What does this mean for scaling and institutionalising social innovations?

Social innovators will need to develop a broad spectre of strategies to get their right resources and develop relevant capabilities. The main results show a high innovation capacity and empowerment of society by broad and diverse financial and personnel resources, by social innovations situated mainly in the implementation and impact phase stage (see chapter process dynamics). The integration of partners of all societal sectors, building an innovation related ecosystem, diverse funding sources, a high budget (of established initiatives), the diverse know-how of partners, a broad user and beneficiary involvement and a high number of volunteers could be seen as an already existing *excellent basis for further development to an ongoing institutionalisation of the initiatives, their diffusion and adoption*. Moreover, existing initiatives of such kind can become an inspiring movement or practice to adopt, modify and develop other solutions for other societal challenges and social demands, especially as responding to societal challenges and social demands is the main motivation and trigger to start a social innovation.

The analysis also shows that social innovations need to be integrated into social movements, networks, umbrella organisations, and not to forget policy programs, if they wish to diffuse and become adopted. However, although we find examples of social innovators dealing with these elements, it is clear that this potential is still not unlocked to a high degree. In line with the TEPSIE project and the results of the incubator projects BENISI and TRANSITION (Davalli et al., n.d.), funding and knowledge gaps remain main problems and barriers, leading to a limited transfer and diffusion (see chapter 6). Regarding financial resources, the initiatives are very different, depending on the policy field and the region on the one hand as well as on the scale and funding resources of the single initiative on the other. Indeed, many funding sources have been named, however relying on a variety of different sources is not a chosen strategy (e.g. risk diversification, not dependent on single sources), rather it is a given necessity to look for funding wherever it comes from. Empowerment is given by the (quantitative) participation of civil society, users, beneficiaries and the (qualitative) integration of diverse know how of the different partners. Resources, capabilities and constraints have to be seen in a *process or developmental perspective,* meaning that they change over time and are allocated differently to specific development phases of social innovations (see chapter 6).

Is it possible to support social innovators with this complex reality?

This chapter contains several suggestions. Social innovations are driven by individuals, networks and groups meaning that initiatives are very much relying on personal engagement and persons. There is a need for environment and governance structures that are friendly to these innovators. Especially if compared with technological development infrastructures and support structures (like NIS), it becomes evident that the instruments for supporting social innovations have to be improved, e.g. if it is to improve the usage of technologies for social innovations or to integrate technological development in a Social Innovation process based on a social demand or a societal challenge.

Alongside civil society, the social economy is an environment equally often mentioned as an important source of Social Innovation. It is thus suggested to pay particular attention to the environments of civil society and the social economy (Scoppetta et al., 2014) in order to understand their particular distinctions. Studying these distinctions is of special relevance for public decision makers, as it provides the relevant background against which supporting infrastructures can be set up. Within the mapping of SI-DRIVE social entrepreneurship and social economy as well as social enterprises are not appointed as the main part and partner for social innovations, but nevertheless they could still be seen as a relevant driver of Social Innovation: beside empowerment, human resources and knowledge, entrepreneurship is named as one of the main crosscutting themes in almost half of the initiatives.

However, while societal challenges and (local) social demands are the origin of social innovations driven by individuals, groups or networks, the initiatives are strongly *confronted with path dependencies* and *restricting formal systems*, limiting the potential and effectivity of social innovations. Therefore a specific Social Innovation friendly environment is demanded (fostering Social Innovation ecosystems) - different from other (technological or economic) innovations – for the purpose of unlocking and stocktaking the potential of the whole society. Competition, capacity building and empowerment are driving the innovation process, thereby overcoming barriers and constraints. As there is hardly any market- or solution-related competition, competition can be found between initiatives for funding, awards and support. Moreover, competitive or creative tensions between social innovations and the formal sector (concerning the best solutions to cover system gaps or failures) have been identified.

Social Innovation ecosystems need new governance structures, embedded in and enabling and fostering innovation friendly environments. As Millard (2015) proposes, the societal level perspective of social innovations demands an open government or better *open governance:* with open assets, services, engagement, structures, organisations and processes. This is "about linking and integrating the worlds inside government, as well as linking and integrating these with the worlds outside government for the specific purpose of creating public value. (…) It involves breaking down, or at least cooperation between, silos across different administrations, levels and locations, through pooling and sharing infrastructures, processes, data, assets, resources, content and tools. It implies forms of federation and coordination which balance centralisation and decentralisation as well as top-down and bottom-up approaches. This involves huge challenges technically, politically, legally,

organisationally and in terms of working cultures. The vision is of a 'whole-of-government' approach embedded in and interacting with the reality of society as a whole" (Millard, 2015, p. 4).

Within such open government and open governance systems *"gatekeepers"* do have a central role by bridging different realities (such as of governmental/public actors and social innovators) "granting access to existing social systems (like the health system or the labour market) and with these to funding opportunities and target groups. (…) For social innovations, it is crucial to identify gatekeepers, their functions, objectives and governance"(Pelka/Markmann 2015, p. 3). The practice fields of SI-DRIVE - if being further developed, in a more coherent way - could be a starting point for setting up clusters (similar to business clusters of SME´s) to join the forces of social innovation initiatives, for lobbying, knowledge exchange, access to and generating of new resources, capacity building, overcoming institutional barriers, and other activities.

An insufficiently reflected and underdevelopment resource for improving social innovations in any kind are universities and research centres. In the Social Innovation ecosystem or quadruple helix they still have a minor role now, especially when compared with their major role in technological innovation. They could support social innovators and innovations with knowledge exchange, integration of new technologies, monitoring and evaluation, pilot and demonstration projects, supporting managerial competences, and others - to enhance their capabilities and to help them overcoming constraints (see chapter 5).

5 ACTORS & INTERACTIONS IN SOCIAL INNOVATION

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5.1 INTRODUCTION

Much of the literature on actors in Social Innovation takes a typological perspective, seeking primarily to understand actors according to the sectors they come from and how this contributes to Social Innovation. This is portrayed most notably by referencing to the various helix models that distinguish actors from public, private, research, and civil sectors. The article takes the typological perspective as a starting point and strives to underpin it with quantitative data. In addition, we propose a fluid and relational approach to conceptualising actors in Social Innovation in order to account for the dynamics within Social Innovation processes.

The importance of an actor-centric perspective is well-reflected in ongoing European research projects on Social Innovation. Alongside SI-DRIVE, these are for example, SIMPACT and TRANSIT. Actor-centred institutionalism is guiding actors' conceptualisation in SIMPACT, and the TRANSIT project applies a multi-actor perspective as a heuristic framework to analyse actors' involvement in Social Innovation processes.

Actors and the social networks in which they are involved are governed by modes of interaction, dynamics of power and the social, cultural, and institutional frame in which they are embedded in. Modes of governance describe how decision-making, leadership and ownership are managed in Social Innovation (see the governance dimension elaborated in chapter 6 of this report). The modes are related to policy-making, self-regulation and co-creation. Howaldt et al. (2014) emphasise that from a social theory perspective, the focus is on the interactions of actors with their distinct rationales, logics and modes of interaction and point to new forms and practices of governance that are becoming increasingly established.

This chapter aims to explore how actors collaborate and indeed how different roles and functions may change over time. In summary, we propose a more fluid model of actors in Social Innovation who interact, to greater or lesser extents, as part of a dynamic eco-system.

The chapter starts out with reflecting the state of the art on actors in social innovation initiatives by discussing models and approaches of actor interactions and actors' roles and functions (section 2). This is followed by discussing the empirical findings about actor types (section 3) and dynamics of collaboration (section 4). The conclusion (section 5) focuses on schematised specialisations of different actors in social innovation initiatives and how their importance changes over time.

5.2 SOCIAL INNOVATION ACTORS AND NETWORKS – STATE OF THE ART

Transformations in governance are an influential context factor for social innovations developed by different actors. An opened policy process and participatory approaches provide market and civil society actors more space to developing their ideas of social initiatives (Pradel Miquel et al. 2014). Social innovation initiatives engage a wide variety of actors and networks in a diversity of roles and functions, which is part of what allows the initiatives to respond to social problems. For example, in the development of social housing "The heterogeneous (patchwork) character of the system… is also the source of its remarkable pluralism – the actors are constantly reconfiguring, establishing new alliances and 'techno structures' to adapt the fundamental ideas to new needs and circumstances" (Scheuerle et al. 2016, p. 177). This collective agency, combined with the continuous challenges of competing social forces on different levels brings relationships between actors in Social Innovation to the forefront by providing a fuller understanding of the development of Social Innovation.

Actors are conceptually understood to be socially embedded and influenced by particular contexts and structures. For example, the emphasis placed by SIMPACT on the concept of a Social Innovation ecosystem highlights the

variety of actors and the dynamic environment for social innovations, which are shaped by, for example, changing policy environments and changing markets (Terstriep et al. 2015, p. 170). Likewise, the theoretical framework guiding the CrESSI project acknowledges the social-embeddedness of actors without assuming structural determinism for their activities (Scheuerle et al. 2016, p. 4).

Models and approaches

Following the typological approach, actors engaging in Social Innovation mainly come from public, private and civil society sectors. A common way of operationalising the social framework of Social Innovation is through helices of actors. The concept of the *triple helix,* consisting of academia, the public sector and the private sector (Etzkowitz/Leydesdorff 1995) has proved efficient in terms of promoting advanced and ground-breaking technical innovations. However, it has been found to be inefficient in terms of promoting satisfying solutions to society's complex challenges (Boelman et al. 2014). As a result the framework has been expanded to a *quadruple helix model* (Carayannis and Campbell 2009; Boelman et al. 2014) which includes civil society as the fourth main actor group involved in SI processes, taking into account the role of the public in advanced innovation systems. Hansson et al. (2014) have developed this further to a *penta helix,* adding citizens and social entrepreneurs to the model, whereas Carayannis et al. suggest a quintuple helix adding global warming as a driver for innovation (Carayannis et al. 2012).

Accordingly, social innovations can be initiated and provided by all parts of society, including "public actors, private market actors, communities themselves or civil society actors, or collaboration among them" (Scheuerle et al. 2016, p. 173). Pradel Miquel et al. (2014, p. 156) underline the ways in which different actors can support Social Innovation. Public actors can promote "new forms of organisation and coordination, and /or more openness to other actors in the provision of services and resources" (ibid). Private actors "can be linked to Social Innovation when they promote new forms of trust and relations between citizens and develop new forms of economic exchange" (ibid). Organized citizens can put forward "alternative ways of addressing new risks that have not been taking into account by public and market institutions" (ibid).

Although Social Innovation literature often assumes a single locus from where a social innovation spreads, for example in the *Social Innovation spiral* (Murray et al. 2010) or the *adaptive spiral* (Westley 2008), empirical findings suggest that the picture is more complex and findings may be more in line with models such as the *innovation journey* (Van de Ven et al. 1999) which conceive of a "bundle of developments" both internal and external to the social innovation involving many actors in fluid roles (Scheuerle et al. 2016). Blurring boundaries between responsibilities of state, market and civil society actors generate new, mutually influential dynamics (see Pradel Miquel et al. 2014, p. 155). The network of actors engaged in social innovation initiatives is of multi-level scale as "[…] various city authorities and even regional or national governments are often involved, through financial arrangements and decision-making processes, generating a complex web of multilevel governance" (Pradel Miquel et al. 2014, p. 159).

Social innovation initiatives can be considered communities of practice within the wider ecosystem. The community of practice approach originates from organisational studies where it focusses on situated learning within social groups and the question of how people generate common interest, knowledge and routine, thereby becoming a community of practice (Wenger 1998). Next to situated learning and the generation of shared practice, communities of practice are explicitly linked to innovation and acknowledged as a facilitator of innovation development (Brown/Duguid 1991). Understood as a community of practice, social innovation initiatives are facilitated by common interest, understanding and action.

Instead of a fixed framework, Social Innovation is set within a complex and dynamic environment with, for example, changing policy agendas. In light of this, recent research has suggested that more complex models may be required to describe the Social Innovation ecosystem, although it is recognised that this is a process that "still appears to be in development" (Terstriep et al. 2015, p. 170). Bloom and Dees suggest mapping a Social Innovation ecosystem according to its two different parts, namely *players* and *environmental conditions* (Bloom/Dees 2008, pp. 49). Each player of the Social Innovation ecosystem has a role, for example as a resource provider, competitor, complementary organisation and ally, beneficiary and customer, opponent and problem maker, affected or influential bystander. These roles are dynamic and might change over time, as well as one player can have several roles at a time. Environmental conditions are politics and administrative structures, economics and markets, geography and infrastructure, culture and social fabric. They are context factors in which

the players operate in and change only slowly in order to adapt to new situations. In what follows, focus is on roles and functions of Social Innovation actors.

Roles and functions

The roles of certain actors have been emphasised differently in the literature. For example there is a complex understanding of the role of governments and the public sector. In general the state is thought to perform two main functions. It acts as a promoter/ facilitator of SI and provides resources such as funding (capital), land, increased support for networking, capacity building and digital technology, or through new legal frameworks, commissioning and applying research and working alongside Social Innovation. In this role the state is just one actor in a network of actors. A less common manifestation sees the state as actively stimulating SI in order to involve civil society and therefore providing social innovations (Haxeltine et al. 2016; Boelman et al. 2014). State withdrawal can also play an important function, where social innovations come in to the gap left by that withdrawal (Haxeltine et al. 2016).

The contribution of science to Social Innovation can be significant in the provision of knowledge resources and add additional perspectives or raise awareness for target groups (Terstriep et al. 2015). However, as discussed above, empirical findings suggest that the role of science is marginal and perhaps has been more relevant in "classical" innovation studies (see also Howaldt et al. 2014).

Charitable organisations have also been found to be important welfare actors, granting access to funding opportunities, raising awareness and contributing to recognition (Terstriep et al. 2015, p.8).

Scopetta et al. (2014) underline the importance of civil society as a source of Social Innovation. Grassroots aspects of civil society include networks of political activists who care about a wide range of issues, such as human rights, marginalized groups, sustainability, gender equality etc. Despite local roots, the strength of civil society lies in cellular organisation not centrally governed or coordinated (Appadurai 2006). Civil society not only stands for key actors and promoters of Social Innovation, its mode of organisation can be seen as a Social Innovation sui generis, often forming social movements and other innovative social formations in its own right.

Roles of different actors can be seen to change over the course of a Social Innovation. In a large study of relevant actors in historic examples of Social Innovation, Scheuerle et al. (2016) demonstrate how the types of partnerships and networks go in phases along the timeline of a social innovation. For example, while in the early stages of an innovation it may be helpful to have a supportive individual from the public sector; legislative change may be more significant in order to scale the innovation further.

As well as exploring who the actors are, Terstriep et al. (2015, p. 33) conceptualise different roles for the actors within Social Innovation processes. They offer the following typology of roles:

- **Inner core**: Actors initiating and/or operating a social innovation
- **Developers**: Actors actively involved in the implementation of solutions
- **Promoters**: Actors facilitating to operate, spread/ diffuse/ scale the solution (e.g. media, financiers)
- **Beneficiaries**: Actors who benefit directly or indirectly from the solution
- **Opponents**: Actors opposed to the solution
- **Follower/ Imitators**: Actors that follow with their SI previous projects/ solutions plus actors imitating established solutions

In this model, developers are the central core of the organisation, translating knowledge about unsatisfactory circumstances into an innovative idea and implementing the idea to make it a social innovation. Promoters, such as private companies and government actors, are involved in the Social Innovation process as partners, providing support as outlined above. Supporters refer to actors facilitating the spread and diffusion of Social Innovation through, for example, dissemination or lobbying and knowledge providers provide specialist knowledge, whether 'expert knowledge' (e.g. academia and science) or 'local knowledge' such as that of poor and marginalised groups. McGowan and Westley define similar functions of actors in innovation processes by distinguishing between poet, designer and advocate: "The poet shapes or expresses the new idea or social phenomenon, the designer converts the phenomenon into an innovation (a policy agenda, a programme, a product, etc.) and the debater advocates

either the innovation, the phenomenon or both" (McGowan/Westley 2015, p. 56, cited from Howaldt/Schwarz 2016, p. 9).

To conclude from what is discussed in the literature about actors in Social Innovation processes, it seems that a commonly accepted approach of conceptualising actors' interactions and of defining roles and functions still needs to evolve. Various models such as the different helices, communities of practice, or Social Innovation ecosystems strive to explain how actors collaborate. However, they have different disciplinary roots (economics/innovation studies, organisational studies, and biology), terminologies and objects of cognition, and are thus difficult to be compared. In terms of actors' roles and functions, there is common understanding that key actors underpin the influence of agency and power in Social Innovation processes. As pointed out by McGowan and Westley: "The Social Innovation process is often the result of the interaction of agency and institutional dynamics" (McGowan/Westley 2015 p. 56, cited from Howaldt/Schwarz 2016, p. 9). However, as is the case of conceptualisations of actors' interactions, there exist various suggestions of roles in Social Innovation processes. To forward the discussion, empirical evidence is needed. Against this background, the next section will explore empirical results of actors in social innovation initiatives with a focus on results of the SI-DRIVE project.

5.3 ACTORS IN SOCIAL INNOVATION INITIATIVES – EMPIRICAL FINDINGS

The broad range of actors involved in social innovation initiatives also can be shown empirically and have been analysed in the first quantitative mapping of SI-DRIVE. Results are as follows (see figure 15): NPOs/NGOs and public bodies are most frequent partners being involved in 46,4% and 45,5% respectively of the mapped initiatives, followed by private companies involved in 37% of the initiatives. Involvement of social enterprises, individuals, networks and groups, foundations, and research organisation is less frequent in the mapped initiatives (involvement ranges from 13% to 15% of the initiatives). However, as the in-depth case study analysis will show, individuals play a crucial role in idea generation of social innovation initiatives. But obviously they are not mentioned on the initiatives' online representations which were basis for the quantitative mapping.[8] The quantitative analysis further reveals that Public Private Partnerships (PPPs) engage in the minority of mapped initiatives (6,5%).

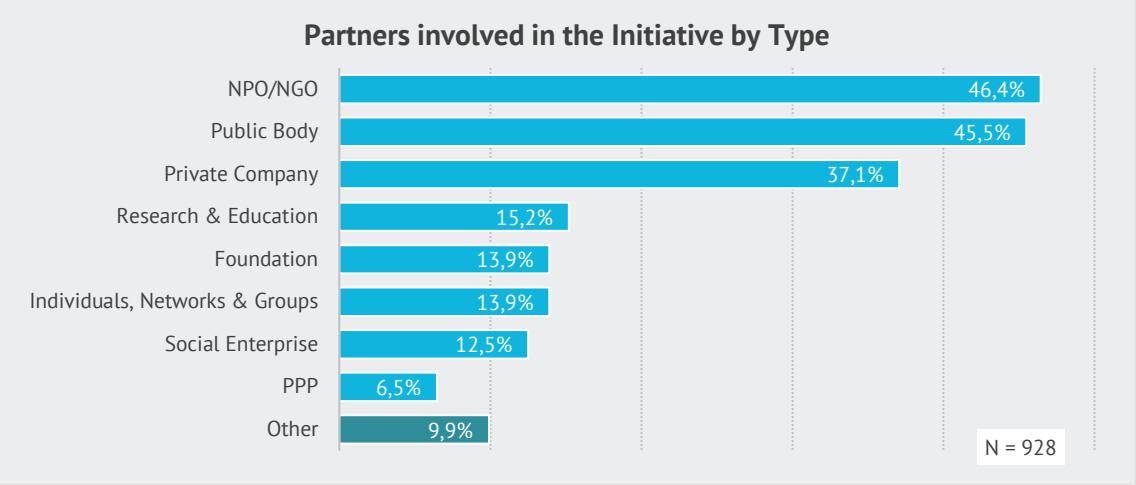

Figure 15: Actors engaged in social innovation initiatives (multiple responses; % of cases)

Comparing these results against recent discussions in the literature on Social Innovation actors, we identify two key points of contrast between the existing literature and the mapped cases. First, and most interestingly, our data suggests that private companies are a much more influential actor than assumed. The *strong involvement of private companies* suggests that economic interest may be connected to Social Innovation, even if this is taking

[8] In fact, this underlines the importance of the mixed-method approach applied in SI-DRIVE were both quantitative and qualitative data was analysed in order to come to conclusions about Social Innovation actors.

place implicitly and social value is created under the mantle of corporate social responsibility (CSR), corporate citizenship, or socially responsive business (see Osburg 2013; Porter/Kramer 2011). In this sense, the results illustrate that progress in Social Innovation is not limited to social enterprises, but might also be relevant for the mainstream business community.

The second key difference is related to the triple and quadruple helix models mentioned above. The marginal engagement of research organisations is in strong contrast to their essential role as knowledge providers in classical innovation processes (see Miller et al. 2016; Gallego et al. 2013) and as one actor of the classical triple helix model. Partly, the lack of involvement of research organisations can be explained by specifics of social innovations. Distinct from technological innovation, social innovations often originate from grass roots of civil society, and user and beneficiaries might replace research institutes as knowledge providers. This corresponds with the role ascribed to users whose function is related to knowledge provision, experimentation and feedback (see section on user involvement in this chapter). In this respect, research and education facilities have to reflect on their future role in Social Innovation. A particular potential is to complementing user and beneficiary knowledge with scientific approaches, methods and tools, in evaluation, measurement and consulting. In addition, social enterprises are partners in only 13% of the mapped initiatives, even though existing literature attributes them a central role in Social Innovation (see Davies 2014, p. 63).

Roles of actors in social innovation initiatives

The conceptualisation of actors' roles developed by Terstriep et al. (2015, p. 33) has also been applied in SI-DRIVE as a frame to analyse empirical data (see Figure 16). The role as central developer is foremost assigned to NGOs/NPOs (60%). At some distance, public bodies (45%) and private companies (38%) rank second and third as central developers. All other actors can be ascribed a less central role as initiators and/or operators of the initiatives. In contrast, public bodies take the lead as promoters of Social Innovation (57%), followed by NGOs/NPOs (53%) and private companies (47%). Again research organisations, foundations, individuals, groups and networks as well as social enterprises and PPPs are lagging considerably behind the former three actors.

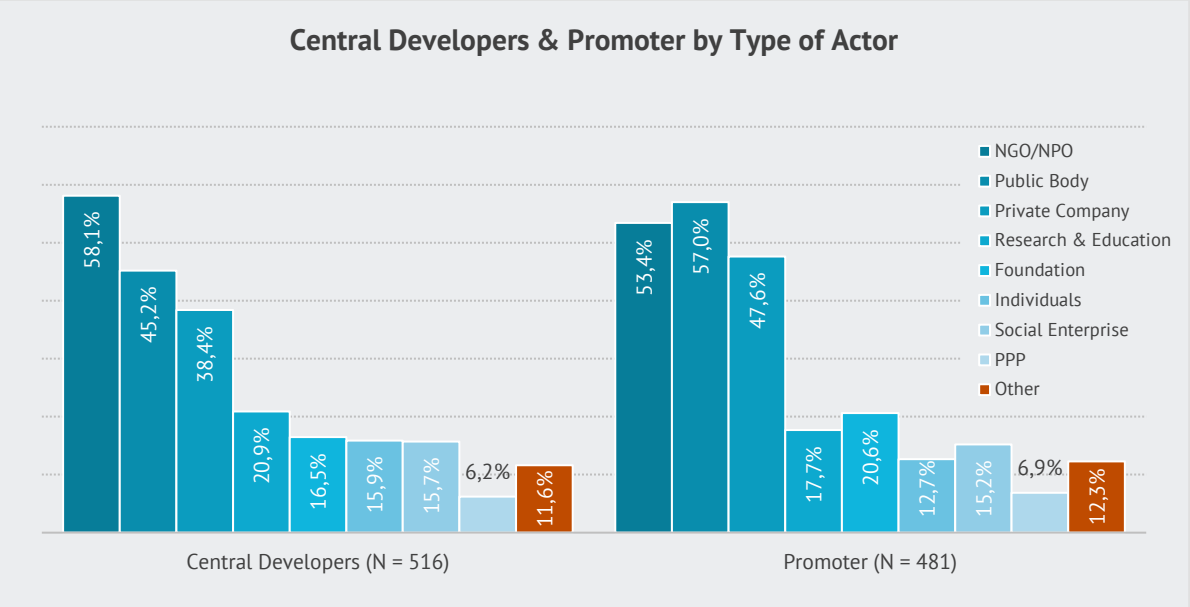

Figure 16: Central Developers and Promotor by Type of Actor (% of cases)

An analysis of main implementing bodies shows that almost one-third (31%) of the initiatives are being led by NGOs/NPOs, followed at some distance by private companies (23%) and public bodies (20%) (see figure 17). Cooperatives as well as individuals, groups and networks are only attributed an implementing role in relation to a small minority of mapped initiatives. Although social innovation initiatives are implemented more often by

research organisations (9%) and social enterprises (7%), as compared to the former two functions, their importance still remains limited.

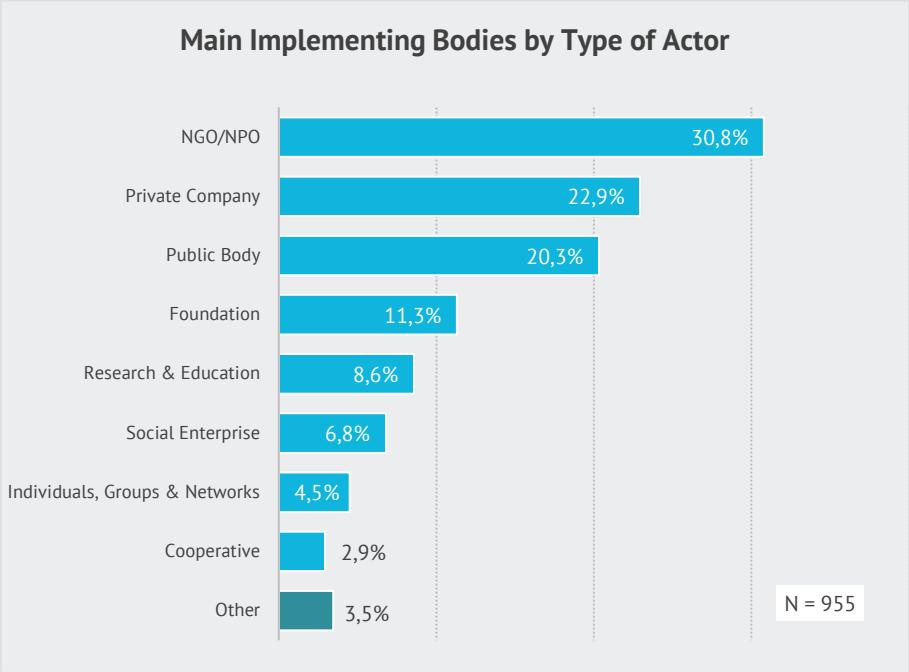

Figure 17: Main implementing bodies (multiple responses, % of cases)

Involvement of users and beneficiaries

There is significant variation in the involvement of users and beneficiaries in the development or improvement of a social innovation. Users were involved in approximately 46% of the cases mapped across policy fields, with 'users as knowledge providers' being the most common form of involvement (Howaldt et al. 2014).

Likewise, it is identified that historically the marginalised communities who are often considered the beneficiaries of Social Innovation have had very little involvement in the Social Innovation process. In terms of the historical cases outlined by Scheuerle et al. (2016, p. 105), they conclude that "[t]he marginalised as a target group were talked about but not talked with". In these cases, the authors found that the most marginalised are usually not the innovators due to the social factors causing their marginalisation (ibid, p. 181).

According to the SI-DRIVE data, users/beneficiaries are involved in the development or improvement of the solution in about 46% of the mapped cases (Figure 18). To advance the understanding of how users are involved in Social Innovation, qualitative answers on user involvement in the mapped initiatives have been coded, categorised and quantified, as can be seen below.

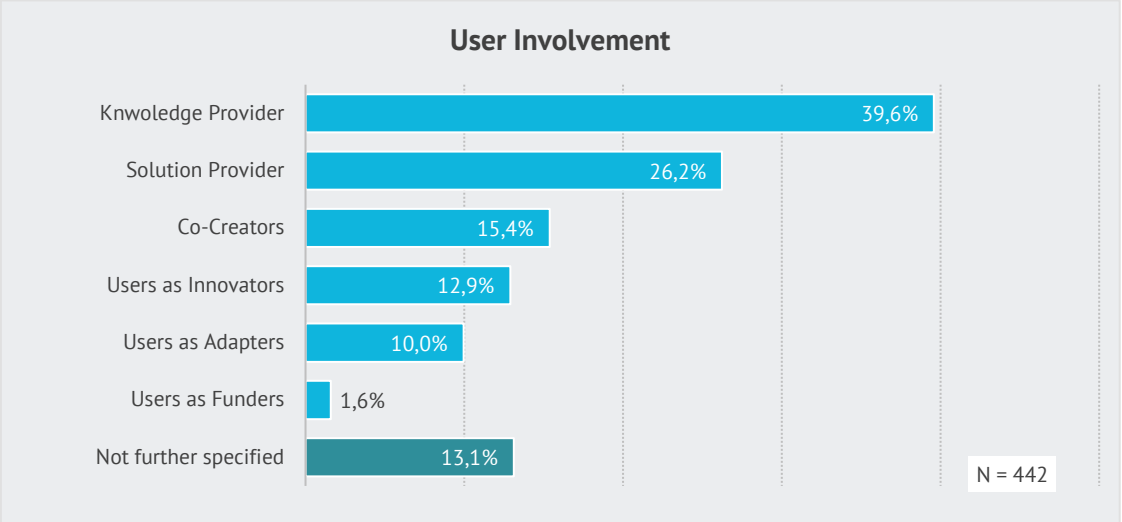

Figure 18: Form of User Involvement in Social Innovation (multiple responses, % of cases)

A *user as knowledge provider* is the most common form of involvement (39.6%). This can take place throughout the Social Innovation process in the form of dialogues, feedback, testing and experimentation, suggestions for further improvement as well as tutoring. Findings correspond to the observation that users have a substantial role in Social Innovation that goes beyond the mere utilisation of the solution provided by others. Moreover, it suggests that social innovation initiatives rely on users' specific knowledge and feedback to meet their needs properly.

This is further substantiated by the involvement of *users as solution providers*, which ranks second (26%), and users as co-creators which at some distance ranks third (15%). Concerning the former, users are not part of the development process of the solution, but provide the readily available solution to other users. Forasmuch, it can be assumed that the success of the solution strongly depends on users' acceptance and active participation. On the contrary, the category *users as co-creators* refers to users' direct involvement in the development and/or improvement of the social innovation as one partner of many stakeholders. This category is clearly to differentiate from *users as innovators*, where the users are the initiators and core developers of the solution, while in later phases of the innovation process the s may have been adopted by other organisations to advance its implementation. Besides, *users as adapters*, i.e. personalisation of readily available solutions, have been identified in 10% of the cases. Finally, and not surprisingly, *users as funders* are of minor relevance.

5.4 HOW DO ACTORS COLLABORATE?

Given the complex socioeconomic challenges societies are facing, cross-sector collaborations between individuals, NGOs/NPOs, private sector and public sector (including research organisations) is no longer an option but rather a necessity to bundle actors' capabilities and capacities with the aim to address these challenges.

It has been shown that among the initiatives which are developed in networks, alliances of three and more partners prevail, while NGOs/NPO, public bodies and private companies appeared as most important actors in Social Innovation. By further analysing the interactions between the actors, with a focus on the three main types of actors, alliances between specific types of actors become evident (see figure 19).

Despite the lack of information on alliances in the SI-DRIVE data set (data is available for only 44% of the mapped cases), the analysis revealed some interesting findings: With regard to actor constellations, the first thing that becomes evident is that alliances comprising solely a single type of actors (NGOs/NPOs, public bodies or private companies only) are of minor relevance. These actor constellations have been identified in as few as 3% of the mapped cases each. On the other hand, 91% of the initiatives comprise alliances involving at least two distinct types of partners, clearly underpinning the cross-sectoral nature of social innovations.

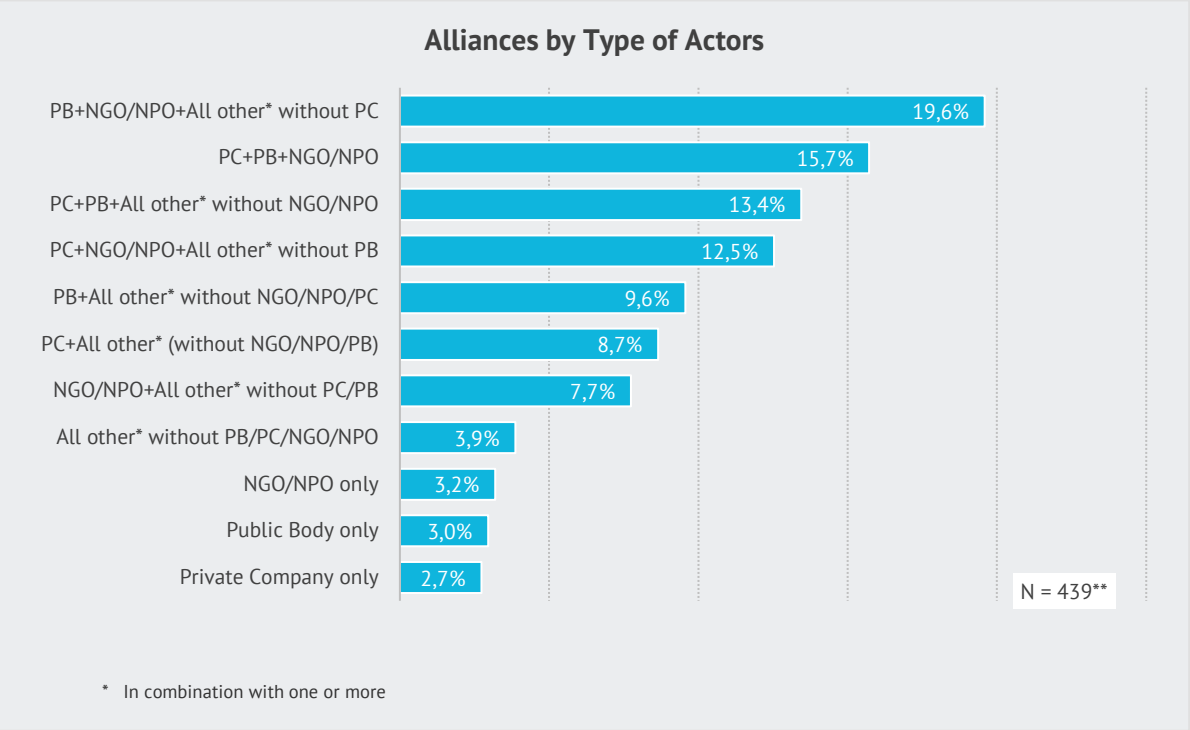

Figure 19: Social Innovation Alliances by Type of Partner (% of cases)

With a proportion of 20%, alliances comprising public bodies, NGOs/NPOs and other partners except for private companies (Type 1 Alliance) prevail, followed by networks of the three major actors, namely private companies, NGOs/NPOs and public bodies (15%, Type 2 Alliances). Collaborations between, private companies, NGOs/NPOs and other partners except for public bodies (Type 3 Alliances) are lagging behind Type 1 Alliances, making up for 13% of the mapped initiatives. The proportions of networks comprising one of the three major actors plus other actors range from 8 to 10%, whereas alliances of public bodies with other partners excluding NGOs/NPOs and private companies rank first.

As the knowledge on how and for what purpose the partners in Type 1, 2 and 3 Alliances cooperate so far remains scarce, further investigating this issue in the in-depth cases studies is expected to considerably contribute to advance understanding the nature of collaboration in Social Innovation. Differentiating between value creation, collaborative stages, partnering processes and collaboration outcomes, Austin and Seitanidi's (2012) Collaborative Value Creation approach could be useful in this respect.

Actors' functions in networks

In the following, actors' contributions to social innovations initiatives are analysed. For this purpose, it is differentiated between nine different functions that are ranging from idea development, funding, provision of infrastructures, knowledge and personnel provision, dissemination and lobbying activities.

The function as provider of personnel is only taken up by a rather small share of actors (13%), and lobbying as a support activity shows to be of minor relevance (6%).

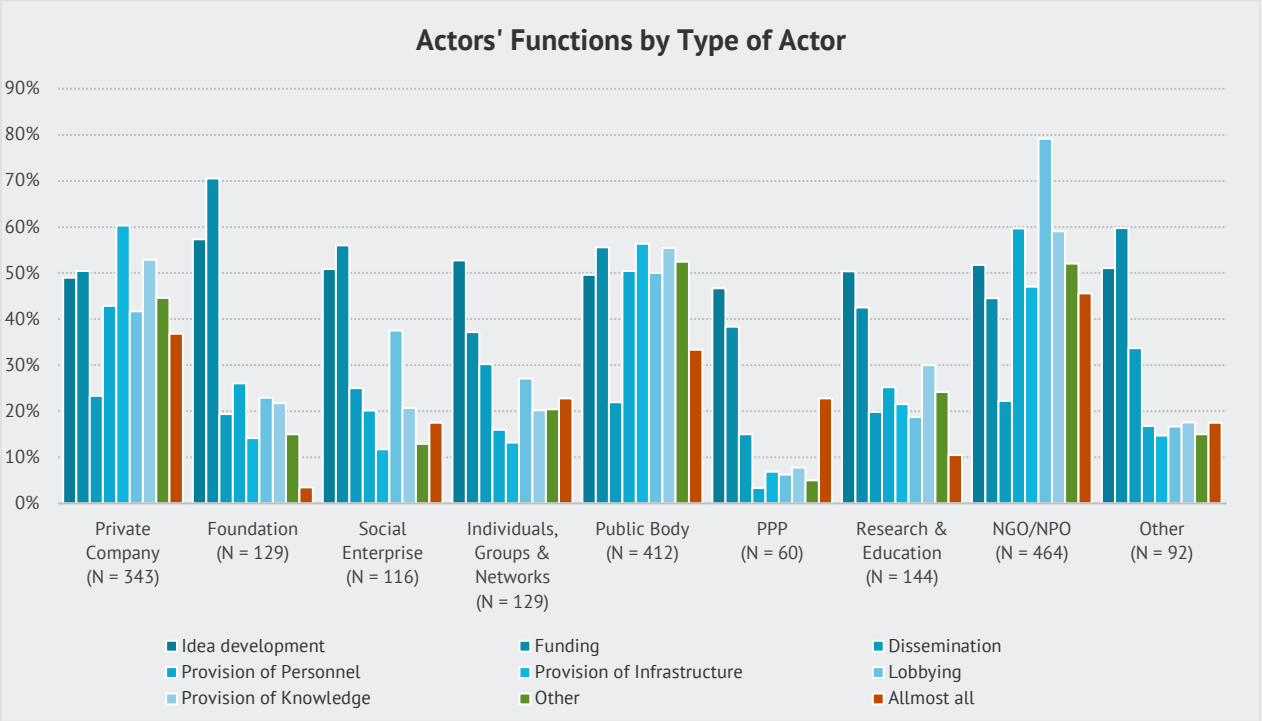

Figure 20: Actors' Function in Social Innovation by Type of Actor (multiple responses, % of cases within single types)

Detailing the different functions according to the actors providing these functions allows for the identification of specialisation patterns (see figure 20). First, the results indicate that private companies' function as providers of infrastructure (60%) clearly exceeds their other support activities. Although on a slightly lower level, likewise, this applies to public bodies (56%), whose function as funder (56%) and knowledge provider (55%) is equally marked. Foundations' primary function is associated to funding social innovation initiatives (71%) and to ideation (57%). Individuals, groups and networks' support centres on idea development (53%) as is the case for research organisations (50%). Another interesting result is that NGOs/NPOs have taken up the function of lobbying, which, with a share of 80%, substantially exceeds their other activities, whereas social enterprises' focus is on idea development (56%) and funding (51%).

5.5 ACTORS' ROLES AND INTERACTIONS BASED ON IN-DEPTH CASE STUDIES

Actors' roles have been an equally important research objective in the SI-DRIVE in-depth case studies. The involvement and influence of different actors varies according to the concrete contexts and approach of the initiatives and practice fields of all seven policy fields. Actor constellations can be viewed according to the needs and requirements on initiative and practice field level. Their needs and requirements differ quite often during their evolution. Consequently, especially the initiative genesis is characterised by a certain dynamic in the actor constellations and the general form and intensity of the actor involvement.

Taking a look on the areas academia, state, business actors, civil society and the media, the following summary can be made: Academia seems to play a subordinated role in the policy fields "Education" and "Environment and Climate Change". In the policy field "Mobility and Transport" no specific information is available. Research institutions are explicitly relevant in the policy fields of "energy supply", "Health and Social Care" and "Poverty Reduction and Sustainable Development", e.g. as partners who provide scientific knowledge and local research before starting an initiative, or during the testing and implementation phases of new solutions.

At state level, the role of public bodies can be manifold; however, they are central in those policy fields where the state traditionally plays a strong role. They can act as provider of regulatory framework conditions in which

Social Innovation could prosper. Whereas differences in relevance can be observed, this role of the state is a factor of influence in all policy fields. In most of the policy fields, the state is also specifically important in terms of funding. In some policy fields (e.g. "Education", "Employment", and "Health"), the relevance of local (e.g. municipalities) and regional authorities was underlined. As mentioned in the context of the detailed actor analysis in terms of "Education", this observation fits into the focus of several socially innovative initiatives, which aim at solving local needs, which are often connected to specific target groups and system gaps. Due to its central systemic position, the state level can become essentially important in all stages of the implementation of social innovation initiative as well its diverse selection mechanisms (like adoption, diffusion, imitation, but also stagnation and decline).

In terms of business actors, the manifold contexts influence their involvement. What can be observed in a couple of policy fields and their corresponding practice fields, is that business actors often appear as partners (e.g. for developing new solutions or complementary and supportive technological innovations). Besides, they often act as sponsors (e.g. in the policy fields "Education" and "Employment") and sometimes as initiators of initiatives. Within two policy fields ("Environment and Climate Change" and "Energy Supply"), examples of conflicts and tensions were provided. Especially (within one practice field) in "Energy Supply", incumbent energy providers, local energy producers ("prosumers") and social innovators are competing.

Civil society plays a key-role in most of the policy fields: as initiator and as the main force behind the initiatives, the establishment and the diffusion of the innovations. Especially in terms of civil society, a broad group of different actors occur: large NGOs/NPOs, but also small-sized grass-root initiatives from local communities (e.g. in "Education and Lifelong Learning"), social entrepreneurs (who combine for example altruistic and activist motivations in "Employment") and private donors and citizens.

Similar to civil society, the media plays an important role in all policy fields for generating attention to the initiative/practice field itself, respectively to the connected societal challenges, mobilising support by citizens, policymakers or sponsors who may also use media attention for their own purposes (see the following analysis and discussions in chapter 6 of this report).

Actors' involvement over time

To empirically discuss the question how actor constellations and interactions change over time, in-depth studies were analysed according to the initiatives' development process[9]. For analytical reasons, the initiatives' development process was structured according to the phases of idea generation, initial phase, implementation, and spread: Actors' involvement was assigned to the respective phases.

Idea generation is related to the phase in which the idea of a social innovation initiative is developed and expressed for the first time, and the decision is taken to develop it further. The initial phase is the early developmental stage in which there is a lot of experimentation, trial and error. Ideas concretise in this phase and a need for further competences might become visible. During the implementation of the initiative's very idea, its organizational procedures and new social practices are launched and piloted/tested. The service of the initiative is continuously improved, based on the experiences gained during the real-world check. The phase of spread includes activities related to increasing the target group or spreading the social innovation to other locations. Spread is an important phase for those initiatives aiming at growing either in terms of spatial diffusion, increasing its organisational capacity, or by reaching out to new target groups. There might also be initiatives who do not aim at spreading. These might focus on a locally perceived problems and do not see the need to spread.

In what follows, findings regarding the changing involvement of actors within the in-depth studies will be summarised according to the policy fields of "Mobility", "Energy", "Employment" and "Education".

[9] The analysis is based on all in-depth case studies of the policy fields "mobility", "energy supply" and "employment" and selected in-depth case studies of "education".

Mobility

Idea generation: Most of the initiatives studied in the policy field of Mobility and Transport started at the level of individual persons. In two cases, two colleagues jointly developed the idea of the initiative (Heimwegtelefon and AhaCar), in four cases single persons were the "spiritus rector" (Liftshare, Moosdorf macht mobil, Lifthsare, MyWheels) and in two further cases the socially innovative idea was developed within an organizational context (WhizzKidz, SheTaxi).

Initial phase: All cases show the need for external expertise during the early development process. The initiators are able to develop and communicate the idea during the initial phase and start growing their network. However, hard and soft IT infrastructure is a key feature of most initiatives and provided by actors who did not belong to the founding team. IT competence is acquired either by connecting to private companies or by searching for individuals with the relevant know-how and who are willing to engage in the initiative. The know-how of IT experts is asked for in a comparatively early stage of the initiatives.

Implementation: The network of involved actors starts growing at this stage of the initiatives and different demands such as a running IT-system, insurance for cars, routinized processes, etc. need to be fulfilled and taken care of. These functions are connected to new players and are of importance in the implementation and spread phases. They can be interpreted as an expression of the initiatives' professionalization.

Spread: The role of multipliers (journalists, newspapers, festival organisers) is to support the initiatives' spread (see Figure 21).

Figure 21: Actors in Mobility SI

Energy

Idea generation: Actors who developed the first idea vary across the studied energy initiatives. In four out of six cases, individual persons were the driving force behind the idea. In the cases Cloughjordan Energy Collective and GoiEner it was a private motivation of citizens/residents to start the energy initiative. In the initiatives Solar Community and SEKEM the professional backgrounds of the individuals was the influencing factor (research, energy association). Two cases (Energy Lady/Kid, KEM Thayaland) were initiated in organisational contexts, i.e. the Efficient Energy Association/Turkey and the municipal network Zukunfstsraum Thayaland/Austria.

Initiation phase: Changing roles of actors in the studied energy initiatives are much related to a process of "spatialisation". Ideas exist about how to initiate more sustainable ways of living, but they need to be implemented at specific places to be put in practice. This requires connecting to local actors. Consequently, administrative bodies and residents are key actors in supporting the idea and in getting a critical mass at the local level.

Implementation: Financial support is provided by banks and regional administrations, whereas hard infrastructure is provided by specialised companies. Once the initiative is successfully implemented, local actors continue in maintaining the actions, routine work starts to be put in.

Spread: If spread is an aim of the initiative, network organisations or associations operating at regional, national or even global scale, covering a broad spatial area gain in importance.

Figure 22: Actors in Energy SI

Employment

Idea generation: Individual persons have been the idea generators and initiators of the initiatives in all of the studied Social Innovation cases in the policy field of Employment[10]. Five of the cases have been developed within an organizational background, the other five cases led to the foundation of an organizational setting, for example an enterprise, a project or a cooperative. The majority of persons belonged to the target group that should be addressed through the social innovation initiative (in six out of ten initiatives).

Initiation phase: Change in actor constellations of the employment initiatives strongly relates to the wish of reaching their target groups. Though idea generation is related to individuals (in some cases being part of the target group), the reach out to relevant target groups determines the choice of actors in the initiation phase. Actors in the initiation phase are for example multipliers with direct contacts to target groups or the management of companies that needs to approve a strategy empowering all employees. Four initiatives even directly involved their target group in the initiation phase and tested the initiative together with the people it should support. These initiatives are characterised by strong user involvement.

Implementation phase: Financial actors gain importance in the implementation phase and are of diverse nature: companies as sponsors, banks as credit lenders, funding provided by public administrations.

Spread: The question of spread is different in the employment initiatives, as compared to initiatives in the other policy fields. They seem to prefer organisational growth and increasing the target group rather than branching out or encouraging other initiatives to implement the same ideas. Thus, there are no new types of actors connected to the phase of spread.

Figure 23: Actors in Employment SI

[10] The studied cases are: Brunel Business Life (BBL), ISMEK, Jonge Honden, Mama Works, MGL, Nova Iskra, Software Netzwerk Leer, Social Impact gGmbH, Service Sociales Integrados S Coop, Xie Zhi Hotel.

Education

Idea generation: Four cases were studied in the policy field of Education. These are Tausche Bildung für Wohnen (TBfW), TalentScout, SEC ISEDT RAS, and Papinotas. The idea of all cases was developed by one or two individuals. In three cases, these persons have been working in fields similar to those of the developed initiatives (for example within the Ministry of Education (Papinotas), or in a Research Institute (SEC ISEDT RAS). The two founders of TBfW met during activities for another project and were motivated to start a socially impactful endeavor.

Initiation phase: In terms of actors, the initiation phase of the initiatives was very locally based. First, pilot projects were tested in the city were the idea generators worked or lived, and alliances were made with local schools, universities or student associations. Thus, educational facilities were lead users in this phase of the initiatives' development. Financial support of ministries or other public institutions (in the case of Papinotas even private capital of the founder) was an equally important factor.

Implementation: The implementation phase was characterised by moving beyond the pilot character of the initiatives by expanding the network of users and by institutionalising the initiatives through increased involvement of state actors.

Spread: Involvement of state actors and institutionalisation was an accelerating factor for the spread/diffusion of the initiatives participants (e.g. 180 schools using Papinotas in Chile, a talent scout program for the Bundesland of North Rhine Westphalia, many universities in the Vologda region cooperated with the SEC).

Figure 24: Actors in Education SI

To summarise how actors change over time, main influential actor types are illustrated in figure 25. The figure includes actors involvement within initiatives of the studied policy fields according to the phases discussed above. It underlines the importance of individuals and public bodies in initiating social innovations[11]. But when it comes to piloting and testing the ideas, additional actors become crucially relevant and are getting involved in the social innovation initiatives: companies, (local) citizens, multipliers or funding institutions. This underpins the necessity to build networks with the aim to access different competences. With the exception of education, funding institutions and companies are key actors for the initiatives' implementation and professionalization, followed by public bodies. In the initiatives aiming at spreading more broadly, there is strong involvement of actors with multiplier functions (specialized network organizations, media, etc.).

[11] At first sight, this is a contradicting result as compared to the quantitative mapping where individuals as actors in social innovation initiatives were mentioned in only 14% of the total cases. Contradictions might be explained by the mapping's "static" view upon the initiatives, focusing on the final result rather than on the developmental dynamics. During the development process, many initiatives did develop a more or less formal organizational background, or moved to public sector agencies. These were then the main responsible organizations for the initiative and as such mentioned on the analyzed homepages.

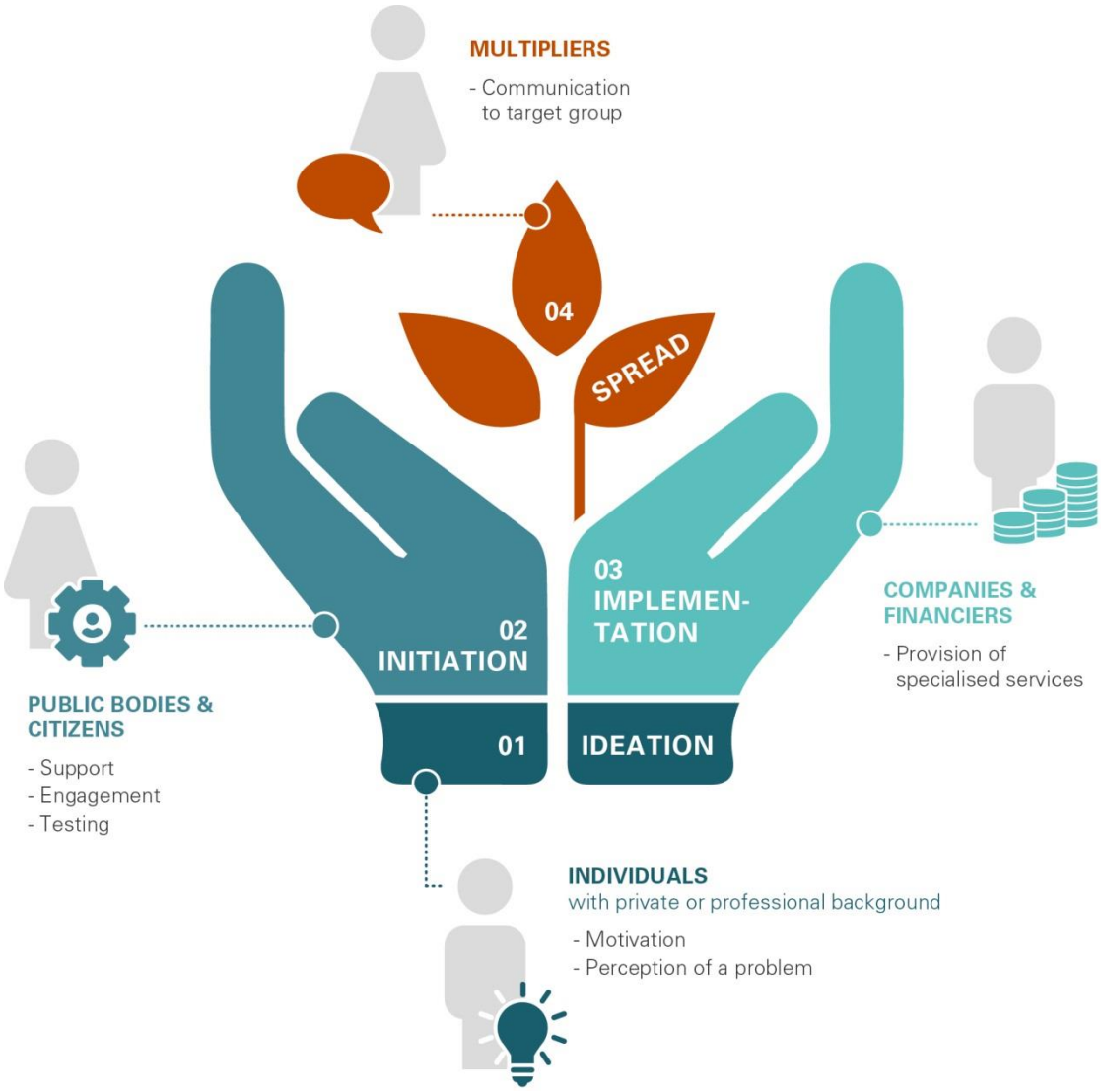

Figure 25: Actors and their functions over time

5.6 CONCLUSION

Social innovations are characterised by a wide range of actors involved, who may have various roles which fluctuate across different innovations and the development process of a single innovation. In fact as Social Innovation research has progressed we have seen the identification of an increasing number of actors, suggesting that Social Innovation emerges and develops within a complex and dynamic ecosystem. This ecosystem is comprised of both supporting and constraining factors and Social Innovation actors both enact existing practices and attempt to enact any new or modified ones. Research on this process is still in its early stages. Based on SI-DRIVE results, actors in social innovation initiatives, their engagement, functions, roles and interactions can be summarised as follows.

Spurred by individuals, the driving force or inner core of social innovation initiatives can be labelled as a "trio" of NGOs/NPOs, public bodies and private companies. Schematised specialisations are (1) problem identification based on socially relevant knowledge (individuals, NPO/NGO), (2) set up of pilots and projects as well as provision of resources to coordinate the Social Innovation processes (public body), (3) infrastructure provision (private companies). The inner core takes over tasks related to the crucial development of a social innovation initiative. A wide spectrum of actors can take over the role of promoters. Being temporarily involved they provide

specialised competences and resources to address challenges and or problems arising in due course of the innovation process.

Cross-sector collaborations emerge as a common pattern in initiatives that are developed in alliances, while actors fulfil specialised functions that allow for taking advantage of complementarities and synergies. In this respect, it is important to note that borders between the functions can be blurred: NPOs/NGOs represent the civil society and provide problem identification/solutions based on societally relevant knowledge; public bodies are able to set up programmes and projects and have the resources to coordinate Social Innovation processes; private companies provide infrastructures. All of these specialisations are equally relevant for a successful social innovation initiative. Besides their primary function NGOs/NPOs, for example, engage in lobbying and funding etc., whereas private companies also contribute to idea development and funding. In particular, the strong involvement of private companies illustrates that the progress of Social Innovation is not restricted solely to social enterprises, but is also relevant for the mainstream business community.

6 PROCESS DYNAMICS

Dieter Rehfeld (IAT), Doris Schartinger (AIT), Matthias Weber (AIT), Wolfram Romberg (AIT)

6.1 INTRODUCTION

The SI-DRIVE project focuses, inter alia, on the relationship between Social Innovation and Social Change. The process dimension of social innovations is concerned with the creation and structuring of institutions as well as behavioural change. In theoretical terms, the process dimension asks for the specific mechanisms that bridge individual social innovation initiatives (micro level) and Social Change (macro level). During the course of theoretically reflecting on the different understandings of process dynamics, new insights have been garnered by the SI-DRIVE project.

In the critical literature review, the discussion of the Social Innovation process was strongly linked to the discussion on social entrepreneurship, scaling activities, and the Social Innovation life-cycle approach. It was concluded: "From the perspective of innovation studies, the focus on the innovation life cycle seems too narrow. This especially becomes clear when considering evolutionary and multi-level approaches that stress the complex and social character of innovation, the role of networks for innovation, as well as processes of institutionalization. All these reflect (iterative) dynamics that cannot be reduced to stages and concrete innovation processes as suggested in the lifecycle approach" (Butzin et al. 2014b, p.116).

As a consequence, SI-DRIVE has moved its focus from "(social) innovation life cycle" to "process dynamics" in its five key dimensions. Process dynamics in this understanding regards questions of scaling, imitation, social learning, and the relationship to Social Change. This modified approach has been adopted during the designing and preparation phase of the Comparative Analysis Report that summarises and reflects the results of the global mapping. In that report, the analysis of Social Innovation processes is structured along three main topics:

- Strategies and leadership of individual actors (intentional and targeted)
- Modes of interaction between social innovators in a practice or policy field (modes of interaction, learning)
- Governance of the Social Innovation process: the relationship between all actors involved (drivers, supporters, opponents etc.), focusing on the overall dynamic of the process

In addition, two cross-cutting themes have been studied, with respect to the above mentioned topics, namely:

- Institutionalization
- The role of policy

The empirical evidence of SI-DRIVE's global mapping revealed that social innovation initiatives provide insights into the first aspect of strategies and leadership, however, little information was given regarding the modes of interaction and the governance of social innovation initiatives. This has not only been a result of the empirical focus, but also a consequence of the early-stage character of many of the social innovation initiatives. Although a broad range of social innovations exist at a European and global scale, so far self-enforcing dynamics are missing in most regions and policy fields. Social Innovation policy is a very young policy field, and social innovation initiatives are in most instances small-scale projects, often embedded in their respective national policy contexts, and the links between the manifold activities are weak in most regions and policy fields. "As a result, the next empirical phase, the case studies, had a strong focus on aspects of the process dynamics and the role of politics. Therefore, the main focus of the qualitative research done by case studies is on the dynamic interrelation between Social Innovation, the practice fields and various mechanisms of Social Change." (Howaldt et al. 2016a, p.155)

Therefore, this chapter strongly focuses the case studies. We refer to the other empirical parts in these cases, when they provide insights in the process of Social Innovation. When we study the dynamic of Social Innovation processes, we start with the assumption that a large number of more or less interlinked social innovations is needed in order to fully exploit the societal potential of social innovations. If we want to unlock Social Innovation

and trigger Social Change, a dynamic that overcomes the contextual embeddedness of the broad range of social innovations is needed. Keeping in mind the results of the global innovations, the key questions therefore is: In how far can we study a dynamic in the process of Social Innovation that leads to Social Change? What are the different paths that result in Social Change and which factors support or hinder these processes?

The following chapter takes a look at the state of the art and aims at working out a framework that structures the empirical base. We build on previous results of SI-DRIVE's theoretical work and enhance these results by reviewing results from other research projects and related theoretical concepts (Section 2). In Section 3 we first present the empirical results. The argument is structured along the three topics that have been presented in the beginning of this chapter. Additionally, we focus on the two cross-cutting aspects, namely the role policy and institutionalization. Section 4 reflects the results by discussing the relationship between Social Innovation and Social Change and provides ideas for a more systematic view of the dynamics of Social Innovation. The final sections of this chapter draw some conclusions, both in terms of first steps towards a typology of Social Innovation, and in terms of positioning the chapter with regard to the state of the art in Social Innovation research.

6.2 STATE OF THE ART – WHAT CAN WE LEARN FROM OTHER RESEARCH?

The critical literature review (Butzin et al. 2014b) provided a comprehensive collection of research with relevance for Social Innovation and Social Change. The results provided the basis for the research design of the global mapping and the case study analysis. In the course of the empirical research, new questions moved onto the agenda and, at the same time, new empirical and theoretical insights, especially from other European projects, had been published. Therefore, in this section we briefly present additional insights in recent theoretical advances with relevance for innovation processes.

The role of convincing narratives (Chiapello)

The dynamic of Social Innovation and Social Change is driven by a strong symbolic element, and often an interesting story contributes more to dissemination than theory. This can be exemplified by the rise of the cluster concept: in the beginning, the story of successful regions, as for instance Third Italy, Baden-Württemberg and of course Silicon Valley (the "Holy Trinity" in regional economy), was communicated in nearly all academic and practical conferences. There are several interesting Social Innovation stories as well, considering for instances micro financing, car sharing or autonomous energy supply, however, all these Social Innovation stories are by far less influential than the cluster concept.

Chiapello (2010) worked out a systematic approach to study what is needed for a new concept to become broadly accepted and influential:

- **Assessment**: It takes experience and knowledge that functions as good or better practice.
- **Communication**: Actors are needed who take up this experience and communicate it into the political process.
- **Conceptual framing:** A concept needs to be underpinned by a clear core idea and a sound conceptual base.
- **Institutionalization:** In parallel with this framing, institutionalization comes into life.

This frame can be fruitful when we study our first topic, the intentions and strategies of social innovators, and the role of leadership.

Actor constellation, networks and multi-level governance (Mayntz/Scharpf 1995)

Social innovators are rarely lonesome riders and this is important for our second topic, the interaction between social innovators, supporters and other actors that have common intentions in mind. Social innovators work in formal and informal networks, in which the interactions are often supported by digital technologies (chapter 7). This topic is further discussed in chapter 7 and we are aware of this aspect as far as the process dynamic is concerned. As the role of policy is a cross-cutting aspect, network perspectives on policy making are of particular interest to us.

In recent years, multi-level governance (Hooghe/Marks 2001) has become the guiding paradigm in political sciences. It stresses the importance of formal and informal relationships across different policy levels, and their influence on decision-making in a world that is characterised by decentralisation of power. This concept includes several ideas of the actor-centred institutionalism approach but, as Mayntz (2004) points out, the respective focus is different: whereas actor-centred institutionalism aims to shed light on "political steering" and aims at explaining the factors influencing policy making, the multi-level governance approach is concerned with regulatory structures that are combining public, private and different modes of coordination.

These governance approaches provide important insights into why social innovations often remain isolated and do not scale up as quickly and as extensively as expected. At the same time, they draw attention to inroads for strategies that consciously foster the promotion and visibility of Social Innovation in policy making.

(Dis)empowerment – the importance of conflicts (TRANSIT, CrESSI)

Social Innovation challenges institutions, which implies that conflicts are becoming inevitable. People have different interests and strategies, and the institutional frame often determines societal roles, access, influence and power. Therefore, the process of Social Innovation has to be sensitive not only to the interactions of social innovators but also to the interaction between social innovators, opponents, traditional actors in a practice field, and beyond. Our third topic - governance of the Social Innovation process - therefore needs a profound understanding and awareness of the role of conflicts and power relations, and the underlying varying interests.

Conflict has two aspects: it is a driver of Social Innovation and the higher the dynamic becomes, the higher the chance of conflicts with actors or organisation that fear to lose power or to see their interests being negatively affected.

For instance, the TRANSIT project has abandoned the idea of distinguishing between levels of Social Innovation and instead proposed the five "shades of change" (Social Innovation, system innovation, game-changers, narratives of change, and lastly societal transformation), which lay the basis for governance mechanisms. These governance mechanisms come closest to what we term a process model in this chapter. The framework on "shades of change" relies on the assumption that (dis)empowering actors (including but not limited to government) is essential if the ambition is to contribute to transformative social change and to address societal challenges. This places an increased importance on governance mechanisms and processes to do so. TRANSIT defines governance as "processes of governing (regulating, decision making, steering) by all types of actors. Governance can be divided into internal governance, with focus on internal decision-making and mechanism of inclusion and exclusion, and external governance which focuses on the structures and mechanisms which influence networks and initiatives and their influence" (Pennink/Zuijderwijk 2015, p. 9).

CrESSI is another project that is discussing the role of conflicts, by including aspects of power into the core of their theoretical framework. The CrESSI project relies on Beckert's (2010) social grid approach. In this view, three social powers are responsible for reconfiguration and reproduction of an existing social grid, namely institutions, social networks and cognitive frames. A similar idea is suggested by the multi-level perspective by Geels (2002). There, the notion of socio-technical regimes is made that also comprise cognitive routines that lead to lock-ins. It is quite similar to that of cognitive frames in Beckert's approach; however, socio-technical regimes also include several other features that may lead to lock-in (e.g. technological and institutional interdependencies).

From micro to macro level – the role of institutions (Giddens, Foucault etc.)

Beckert's approach shows that social practices and related power structures are embedded in institutional settings. "Social innovations encompass new practices", has been one of the key conclusions of the CLR that stood at the beginning of SI-DRIVE (Butzin et al. 2014a, p.152) and became a basis for the project's working definition. Therefore, when discussing the first cross-cutting theme, the influence on institutions, we move from the analysis of a single social innovation activity to the question of new social practices initiated by or emergent from social innovations. In theoretical terms, there are two problems: Firstly, we have to bridge the micro level of a single social innovation project and the meso level of social practices. Social practices, by definition, are more than a single activity but refer to repetition, socialisation, continuity, as well as practices of change. The question of bridging micro and meso level has been fundamental in social science and is related to the interdependencies between structure and action (Foucault 1976, Giddens 1984, Habermas 1968,

Manyntz/Scharpf 1995). Secondly, social practices are neither static nor are they homogeneous (Appadurai 1996, Bhabha 2000), and therefore are difficult to fix.

"Buy-In", compatibility with politics (Kingdon 1995)

Considering Social Innovation and institutional change, a key question relates to policy makers' readiness or willingness to support, adapt or institutionalize social innovations that are rooted in bottom-up activities. This question is covered with the second cross-cutting theme, namely the role of policy. In this context, the work of Kingdon is of interest as he discusses the conditions that are crucial for administrative and political actors when they make use of new ideas and strategies.

Kingdon (1995) has worked out three processes (or policy streams) that are essential for policy makers to open up to new solutions. Kingdon's approach focuses on the window of opportunity (or critical window) during which action can be taken and that opens up only if three policy streams coincide:

1. A recognized policy problem: a subject matter attracting actor's attention,
2. Competences of public policy: technical, economic and social feasibility of problem solving,
3. Politics: decision-makers approach the problem in order to solve it.

In order to make use of his approach, a deeper understanding of the characteristics of the political process and the power relations is needed. In this regard, the actor-centred institutionalism approach provides a suitable framework (i.e. categories, guiding questions and hypothesis) to analyse and systematise empirical studies in the field of political steering and societal self-organisation in different political arenas, in particular in terms of actor constellations and modes of interaction (Mayntz/Scharpf 1995). It aims at bridging methodological individualism and neo-institutionalism and centres around four basic assumptions:

- First, it transcends the outdated understanding of political institutions by studying interaction between cooperative actors in political arenas.
- Second, it focuses on a dense understanding of institutions that structure political arenas by rule setting (distribution and use of power, definition of competencies, access to resources or decision competencies). Institutions are regarded as both a result of social actions as well as guiding social action; in other words institutions refer to systems of rules that structure the courses of action that a set of actors may choose.
- Third, it treats institutions as an independent as well as a dependent variable in explaining political results.
- Lastly, institutional factors therefore stimulate, encourage or limit action but they do not determine it.

Time dimension (window of opportunity, transition approach, Bloch, Elias)

Social innovations often have their roots in local niches, and often they follow a long and rarely linear path before leading to changes of social practices. There are several theories in social sciences that could contribute to a deeper understanding of the time dimension of the Social Innovation process. General theories on social or historical processes (see for instance Elias 1977) show that social processes can be self-reinforcing and non-linear and often are not the result of the strategies and aims the actors of the process initially intended. However, those theories are focusing on longstanding and far reaching Social Changes and large scale Social Innovation.

Further on, we have to keep in mind that the different social fields like economy, social relations, politics or academia, follow specific principles and their own timelines. Often one social innovation speeds up in one of those social fields and the awareness or readiness by other social fields is lagging behind, constraining the uptake of the social innovation. This aspect has been studied in the Transition Approach, with the concept of co-evolution or, in a broader societal context, in the work of Bloch (1996) about asynchrony ("Ungleichzeitigkeit"). It shows that the time lag can lead to conflicts and frictions. Other authors, as for instance Zundel et al. (2005), stress the importance of targeted time strategies of policy actions to trigger innovation and change.

All these approaches contribute to an understanding of the process dynamics of Social Innovation. Due to the complexity and heterogeneity of this process we have to avoid an early focus on one of the presented theoretical

approaches. They are helpful as additional points of reference when we reflect the results of the empirical research of SI-DRIVE in the following chapter.

6.3 MATCHING EMPIRICAL RESULTS, CASE STUDIES AND THEORY

Based on the cases studied, we can essentially distinguish **four basic mechanisms** that determine whether social innovations develop momentum and grow in scale or whether they are taken up more widely:

1. **Gaining attention and recognition:** For social innovations in the area of consumer choice, attention is vital. For the Health area, gaining recognition for the product or service by important stakeholders appears to be one of the key drivers of whether a product scales or not. This highlights the importance of buy-in (Kingdon 1995) for scaling. One can argue that gaining recognition is a pre-condition for the other mechanisms to operate successfully.
2. **Organisational growth:** In the policy field Mobility, often the establishment of an organisational base is important (Aha!Car/Bulgaria, Liftshare/UK, CARUSO/Austria, and MyWheels/NL). Here organisational growth is a main goal, as the business model is based on a critical mass of end users/beneficiaries.
3. **External replication and commissioning:** Other social innovation initiatives rather replicate in different areas instead of scaling-up. In the case of SheTaxi in India (Policy field Mobility), attempts are made to implement similar projects in all larger cities in India. This project aims at giving the women involved the competence and the resources to build up their own taxi business.
4. **Institutionalization:** The emergence of creating institutions is also of high relevance in several of the policy fields. Taking the case of Energy, establishing new business models and enabling the formation of new market players in the existing energy domain is an explicit task of many SI initiatives, particularly when setting up power plants of renewable energy sources.

The first three key mechanisms are reflected in the specific activities at the three levels that will be discussed subsequently, i.e. individual social innovators, interactions between social innovators in a practice field, and process governance in the practice field (Section 6.3.1). Institutionalization mechanisms and the role of politics in institutionalization will be addressed in further detail in Section 6.3.2.

6.3.1 The Process of Social Innovation between Niche Creation and Scaling

Across all practice fields we see very often an intention to scale-up, whether this succeeds or not, is a matter of uncertainty. Social innovators engage in hybrid and complex strategies to prosper and grow, what then bears fruit cannot be judged ex ante. Even if a social innovation initiative remains isolated, this does not necessarily mean it deliberately chose isolation. Actually in addressing a social need it is often very difficult to find a viable solution at all. Many social innovation initiatives are the only ones of their kind because it is already highly unlikely for one organisation to survive in the field, not to speak of several.

Strategies of individual actors - intentions to scale up, disseminate or grow

Strategies for professionalization and institutionalization

The following strategies aim at gaining reputation and attention, and they are often elements in building a narrative and communicate necessary change to a broader public. Professionalization, organisation and institutionalization are building important parts of establishing social innovation initiatives.

Choice of legal form: The choice of the legal form is a deliberate and strategic choice and subsequently informs the actions that the social innovators take: possibilities for financing, public reporting, marketing and communication strategy, to name a few. In many countries it also has VAT implications, which is important (e.g. in the area of Environment) as social innovators often rely on revenues from own products and services. In Employment, and especially in the practice field Youth Unemployment, practices are often embedded in an organisation like a foundation, a cooperation or a centre. This also holds true for some of the initiatives in the Energy domain, particularly in the practice field of Energy collectives.

Set up a business: Many social innovators choose to set up their own business and enter a market. New enterprises exploit a social business idea and, from the moment of foundation, are obliged to become efficient

and gain attention in order to diffuse among incumbent practices. Very often there are no direct competitors in the form of organisations offering similar products and services, however competing practices and behaviours may exist. In the policy field of Environment and Climate Change, for repairing services a competing practice is discarding the old and purchase of a new device. Myrorna from Sweden is an example of a social innovation that after a history as a charity became independent, setting up a highly professional organisation. It deliberately hired professional managers and could position itself as Sweden's largest second hand retail chain today.

Public reporting: Many social innovation organisations heavily emphasise transparency and disclose information on how they organise, whom they partner with, number of employees, what kinds of financing they receive and how they spend these financial resources. Very detailed annual reporting reveals the strategic setting of the social innovator and, at the same time, requires to run all operations in a way that can be made transparent.

Training courses: In areas where entrepreneurship by lay persons is key (e.g. in the policy field Employment, "SSI Bilbao", "Mama works" and "Impact Hub Moscow") as part of the social innovation initiatives, **training courses** are provided which aim at the professionalization of start-ups: training, professionalization for creating a profession. In this case, professionalization is seen as a set of transferable skills that help social innovations to prosper in their early development phase, but also in case they want to become a business on the market.

Organisations as experts: In some areas (Practice field Mobility for Vulnerable Groups, Policy fields Education, Energy) the social innovation initiatives benefit from the experience of the organisations that initiated and implemented the project. Professionalization is something that is nurtured by the professional initiators who are experts in their fields and know what is necessary for being acknowledged.

Scaling strategies (growth, franchising, strategic alliances etc.)

The above strategies that aim at gaining reputation and attention are often continued in growth strategies. The building blocks are still professionalization, organisation and institutionalization, although the growth strategies may not be uniform across cases within practice fields, rather social innovators seize opportunities they perceive in terms of financing, organisational set-up, strategic alliances, and in terms of gaining attention. What is formulated for the policy field Education seems actually true in many areas: "Initiators have diffusion of the solution in mind right from the beginning, but there is no systematic planning or strategy for it" (Schröder/Kuschmierz 2017, p.104) and especially in Lifelong Learning "there is an unlocked potential for diffusion and Social Change" (ibid., p.57). Still, we do find some patterns of scaling over the variety of in-depth case studies; the main patterns seem to be:

Franchising is one strategy, which we find sporadically, often in order to prevent others from imitating without responsibility. Additionally, parts of the profits can be used for own projects, supported by micro-funding (e.g. Employment "Mama works"). Franchising also provides greater opportunity for local interaction in setting up local offices (e.g. e/m Health, "LIFEtool").

Second, in some areas there is **public support for scaling**, either through buy-in and advocacy or through structural funding. In Employment, the Social impact GmbH focuses on supporting start-ups and social enterprises (self-employment), funded by regional public policy (Brandenburg in Germany). In policy field Energy for instance, the Climate and Energy Funds Austria is financed by the federal government and provides a framework for the funding of so called Climate and Energy Model Regions. The three main functions are financing, being a networking partner and providing quality assurance.

Third, **entrepreneurial growth strategies** for scaling exist in areas where business models feed the Social Innovation strategy. In the practice field Shared Car Usage, growth means growth of the own enterprise. Growth Strategies cover aspects as communication to gain acceptance by potential users/clients, making good use of new technologies (social media and communication technologies inside the car) and a business model. The concrete mode of growth depends on the cultural and legal frame.

Networks and functions of network members

As a general pattern, most social innovation initiatives studied have *strategic partnerships* from the setting-up to the growth phases. Hence, not a single actor or organisation orchestrates the initiative, but seeks an ally from the beginning who determines the strategic positioning and major steps throughout the project. *This implies that*

strategy and networks can often not be analysed separately because they determine one another. In the end these partnerships and networks build the ecosystems of social innovations, but in the present argument they form to give gravitas and attention to the social innovators and empower these, *often with the parallel aim of challenging (or disempowering) incumbent actors and practices.*

Strategic partners are *often public partners. However, also partners from media can be strategic partners*. In policy fields where strong public systems exist (e.g. Education, Health), strong contacts with members of the education or healthcare system and politicians are very important. RUSZ (policy field Environment), for instance, ran through different phases in seeking partnerships for its purposes. In its foundation phase in the 1990ies, strategic public partners were important for framing and financing the setting up (Vienna municipality, Vienna waste management, Public Employment Organization AMS, etc.).

What is observed for the policy field Education is likely to stand for other policy fields as well. Public partners can be *initiators of SI*, relevant as development partners, offering and benefiting from an experimental sphere with lower risks. They can be *integrators in* fostering scaling and institutionalization. And they can serve as *supporters* or *"tolerators"* of stand-alone initiatives, with more or less acceptance, and minor or no support of system institutions (Schröder/Kuschmierz 2017, p.58).

For the new waste management system in Sofia, the strategic alliance between the municipality of Sofia and the private firm Balbok Engineering was decisive for coming into life and being sustained. For other social innovation activities, e.g. in policy field Employment, a strong relationship with the local or regional government was important because those are in charge of dedicated programs and their implementation. In policy field Mobility, cases reveal that in the beginning of an initiative, contact with local politics was often crucial. In some cases (liftshare, CARUSO), cooperation with local transport or infrastructure enterprises or with car rental companies (MyWheels) has been built up.

In policy field Energy, the increase in the amount of energy collectives and other new players in the energy market changes the role of local and regional governments as they have to operate in a different way with them as compared to the large energy companies they are usually working with. Their role regarding energy collectives can be to cooperate with them and to facilitate their development. And in fact, energy collectives often cooperate with a local or regional government to realise their goals.

Private sector actors seem to be either subordinate partners or actually the initiators of social innovation initiatives.

In contrast, *subordinate partners* also exist in all policy fields. Subordinate partners are separate organisations that can be exchanged without, in principal, changing the strategic positioning of the social innovation. From a business perspective, they can be considered as being part of the supply chain of a service or a good. These subordinate or supply chain partners provide special inputs for the innovative solutions of the social innovators, but they could in principal be replaced for other actors or organisations providing similar inputs. Still, most of these networks are based on personal contacts and have in common shared values about social impact. Subordinate partners are often carefully selected in order to fit in the social impact strategy. *However, they may to a lesser extent (compared to strategic partners) fulfil the aim of disempowering incumbents.*

In policy field Environment, Myrorna (Sweden) allies with supply chain partners (large firms) in the fashion industry in order to increase reuse and recycling of clothes at the roots. For Tarımsal Pazarlama (Turkey), Vodafone has been an important supply chain partner since 2009. By helping to disseminate information to members by mobile phone, they greatly increase the accessibility of the service that they provide, as many farmers have no internet connection in their homes. Their "taking on board" made the original strategic orientation easier and hence allowed them to grow, however, it did not change the strategic orientation of the undertaking.

Also in the policy field of Energy, energy agencies have been found to play an important role in assisting and co-managing applications and requests, planning work and in the provision of access to relevant networks.

Whereas the above types of partnerships are essential for the setting up and positioning of the social innovations, a third type of partnership and/or network are *networks among social innovators, professional networks and platforms/hubs* (see below, cooperation). If at all, they normally develop once the social innovation has become operational as an organisation and have the function of mission networks and scaling out/communicating the network's mission Again, like strategic partnerships they are destined to give more weight to individual social innovation initiatives (*empowerment*).

Platforms and other intermediaries

Social innovators do engage with platforms and hubs in order to interact, either with other social innovators, or with other stakeholders in the area. On the one hand, social innovators join existing platforms and hubs in order "to see and to be seen". On the other hand, social innovators develop platforms, on the local, national and/or EU level, in order to gain visibility and negotiation power (see networks).

A large number of initiatives that were studied in SI-DRIVE involve networks in its initiation. These are national, European or global networks and related to a specific goal or a challenge, for instance to sustainability. They are part of these networks in order to learn from another. Almost all initiatives include some kind of cooperation, whether it is between citizens or between organisations.

Different networks of repair service firms have been founded on the local (Vienna Repair Network), national (REPAnet) and EU-level (RREUSE) to integrate and make the service of a variety of repair service providers accessible. In some instance, e.g. in the policy field of Employment, it is important to be part of a professional networks (e.g. SSI Bilbao).

Promotion of Social Innovation

In a variety of social innovation initiatives, cooperation with media is an essential part of the scaling strategy. Gaining attention and legitimacy is how social innovation initiatives diffuse and scale into many areas. Thereby, all kinds of channels are important - social media, print media, TV, presence public discourse and fora, conferences, and meetings, TV-Shows, interviews and press conferences.

In many cases, media has been the perfect partner for social innovators: social innovators provide their "stories" to the media which publish these via their channels, and in turn, media increases the attention that the social innovators need in order to spread information about their narratives, problem solutions, service offerings and, in many cases, new practices. So the benefit is mutual.

The reasons for the sustained engagement with media are manifold: social innovators have to get public attention, attention from politicians, and they have to find users and/or clients. Interest in becoming visible and dissemination are strongly linked, also as a legitimation for (further) funding and public support.

Collaborations with media play a role in a variety of SI initiatives and again, empowerment of the initiatives plays an important role here.

In car sharing all media channels are used to become visible and to gain acceptance. In the case of Eat me (Austria), it was originally a show on YouTube which was spotted by the TV broadcaster Arte. Arte created awareness on the topic of food waste. The social innovator was invited to various talk shows and numerous newspaper articles reported on the new organisation and its mission. What is vital here are that all these media contributions in newspapers and TV, and to some extent also prizes, led to increased public awareness and furthermore to an actual demand for Eat me products and services.

In policy field Environment, and especially in the practice field of Repairing, Reusing and Recycling, cooperation with media is reported uniformly through all case studies as being crucial for the growth and success of the initiatives. *It is a strategy of disempowering organisations that market environmentally harmful practices.*

In policy field Health, cooperation with media ranges from being a strategic ally in the social innovation project, over maintaining a press office for cooperation with influential "partner" media, to word of mouth and networking via social media platforms as an important factor of dissemination and growth. Also different patient

groups/vulnerable groups organise themselves via social media and may act as a leverage for the particular social innovation project.

It is important to note that cooperation with media is often not done in an addition to the scaling strategy, but rather constitutes an integral part of such a strategy.

Modes of interaction between social innovators within the practice fields: balance between the different modes of interaction

The modes of cooperation that have been focussed are cooperation, competition, independence and imitation.

Cooperation

In general, cooperation is a key success factor and crucial for social innovation activities, this is also shown in the high importance of alliances and networks for the development of social innovations. However, in some policy and practice fields the importance of cooperation is expressed in the form of cooperation between social innovation initiatives. It is thus important to note that other social innovation initiatives are not necessarily seen as competitors in areas where the social need is high and the solutions are scarce. This applies to the policy field Poverty Reduction, where solutions to include the poor and marginalised are generally sparse. It also applies to policy field Environment, where other social innovators do exist, or at least other service providers. The practice field of Repairing, Re-Use and Extending the life-time of products may serve as an example here: competition (see next paragraph) is weak among repair service providers, they are organised within a platform/network in order to be more powerful. Actually, new entrants are welcomed in case they provide independent and reliable repair services as well. Protection of intellectual property hardly occurs, instead knowledge and practices are rather spread among the like-minded initiatives. However, competition is fierce with retailers of electronic devices and their associated repair services which are seen as affiliates of the sales department. They are the real competitors due to differential taxation of labour and energy; new appliances may be supplied at low prices that hinder (labour-intensive) repair services systematically.
In the policy field Energy, the social innovation initiatives are often cooperation between government, businesses, and civil society, or a selection of those actors. There is not one typical mode of networking and cooperation, as these projects often are started and then develop gradually.

Competition

Competition between social innovators exists where these have developed business models and operate close to the market, and where other social innovators in the area are the ones who may limit sales. In contrast to the above mentioned example where the large retailer is the main competitor, here another social innovation is competing for customers, limiting the sales or social acceptance of services provided by the social innovators.
In the policy fields Health and Mobility, there are areas where competition does exist, e.g. in e/mHealth and Shared Car Usage. Here, social innovation initiatives have a variety of commercial competitors, nationally and internationally. In Mobility, car sharing is driven by private companies and competition is the key mode of interaction. “All projects report to be looking closely at other projects in the field, in order to stay ahead.” (Rabadjieva/Butzin 2017, p. 14) There are a lot of young initiatives in this growing practice field but because of the need of a critical mass, the market for successfully operating enterprises is limited. For the policy field Health, considering software programmes internationally, social innovation initiatives dependent on technological solutions are in competition with any other company offering assistive technologies, and alternative input devices in particular. These are increasingly the very large companies like Microsoft and Google that are focusing more and more attention on alternative input devices and users with disabilities (e.g. pursuing transformative technology with the Google Impact Challenge: Disabilities). Competition, although seen as an opportunity of sharpening the competitive edge and constantly refining the value proposition, is not welcomed as such.

Also in the Energy policy field we can see competition between initiatives on the one hand and/or between initiatives and incumbents on the other. Especially in the practice field of Energy Collectives existing, e.g. citizen-owned, collectives compete with established energy providers and/or with some of their business models offering citizens a share in renewable energy provision. But they also can compete between each other, particularly when scaling-up and seeking for new investors to join in.

In other policy fields, e.g. in Employment or Health, competition exists in some practice fields, however is rather weak as the (local) social need is huge. In the practice field Child and Youth Care, although there are other private carriers in child and youth care with different models of care, on the social need to care for children that cannot be cared for by their parents seems to be enormous. In such an environment, networks of competitors can develop. Competition here mainly comes in because of competitive public calls.

Finally, competition is often going on between different organisations that are depending on donations. This manifests itself in elaborate media work, and a history of a number of media partnerships in the national media landscapes. The competition for donations goes along with a competition for attention through media.

Independence
Some initiatives prefer to stay independent, but still spread geographically and gain attention and importance. The highly specialised North-Atlantic Salmon Fund deliberately chose to remain independent. It grew from national (Iceland) to international not only to buy out the fishing rights of commercial salmon fisheries, but also to build awareness and force international policy collaboration to halt the over-fishing that threatened the survival of the North-Atlantic salmon.

Imitation/replication
From the SI-DRIVE global mapping we can see that imitation actually takes place and serves as mean for initiatives to spread. In contrast to businesses, social innovation initiatives very often want their solutions to be imitated as competition is weak in areas of burning social problems.
This is different in the practice field e/mHealth in which imitators are often seen as competitors. Social innovators do not want to get imitated and protect their intellectual property as far as possible with intellectual property rights, such as trademarks and patents. However, in other areas of Health and Social Care imitation is often welcomed because the social need is overwhelming. In Education, cooperation is basic as in most policy fields. Cooperation refers first of all to the social innovation networks and umbrella networks. Further on, “informal imitation and adaption take place as most of the solutions are not restricted but open for other actors” (Schröder/Kuschmierz 2017, p.104).

Broadly known narratives of social innovations

It is difficult to evaluate what classifies as ”broadly known”. However, it seems that social innovators tell individual success stories, e.g. how assistive technologies changed the lives of individual children. But of course, when a social innovator uses misshaped vegetables und employs teenage mothers for labour-intensive processes to produce soups and stews, this communicates values and provides an assessment along other established practices in the food and catering area. In reaching people in their everyday routines of eating, institutionalization spreads via everyday practices (Chiapello 2010). Charismatic leadership plays a role here, as these charismatic leaders are usually the promoters of the narratives.

Indicators for mutual learning

The case studies point out that learning takes place as a continuous co-creation process the actors involved, between the social innovators, stakeholders and beneficiaries. Mutual learning can also be an indicator for institutionalization that subsequently influences further action (Foucault 1976, Giddens 1984, Habermas 1968, Mayntz/Scharpf 1995).

In general, different levels of learning have been identified:

- *Project/initiative level:* Mutual learning by doing within the project network (initiators, beneficiaries, volunteers and other stakeholders)
- *Collective and cultural level:* Social learning by actors from society and social system
- *Individual (user) level:* Empowerment and capacity building by the people targeted.

In some areas, particularly those characterised by intra-organisational Social Innovation, i.e. workplace innovation, it has been observed that “many organizations reinvent the wheel perhaps” (Oeij et al. 2017b, p. 61). When SI initiatives see themselves as pioneers, learning is, to a great extent, based on personal experiences and

is sustained by the actors and organisations that implemented the project. Learning by doing becomes the dominant mode then. This would hint to a low degree of institutionalization beyond the individual firm.

In Shared Car Usage, a practice field that is characterised by a competitive context with operative businesses, learning takes place, but first of all on the level of single enterprise/initiative. Projects tend to start with market or society studies. Learning by doing is the dominant mode of learning and covers topics like business strategy or customer acceptance. In one case a project (My Wheels), a dedicated research study had been conducted. In general, a constant learning process in this practice field can be observed.

In the policy field Environment, in the practice fields Alternative and Sustainable Food and Repairing, Reusing, Recycling, in Sweden and Austria, and more recently also Romania and Bulgaria, learning also takes place on a collective and cultural level. Social as well as environmental awareness, appreciation for recycling and reuse and appraisal of food have risen over time. For the initiative *Myrorna* (Sweden), in a long-term perspective, it was realized that success requires working on people's attitudes, achieving efficient collection and distribution of second hand goods, and adding value to the products. In order for the practice field to develop, a necessary condition relates to peoples' unwillingness to dispose goods because of minor damages. Culture and values of preserving nature, avoiding waste and prolonging the use of goods exist, but shrivel without the necessary supply of services. Media contributions about repair services and amounts of wasted food raise awareness and demand, before this latent issue, becomes apparent. Statistics from large supra-national organisations (United Nations, WHO, etc.) provide information on dangers that cannot be received by individuals in society at every moment of time, and hence enhance learning and give a context and legitimacy to social innovation initiatives.

In the policy field Health, learning on a collective and cultural level is reflected in the growing awareness and capabilities that both providers and users of healthcare services develop regarding the need for a more holistic approach to healthcare, prevention, and a focus on long-term health rather than high-cost treatment. "It is also reflected in the increasing knowledge that is held in society around the responsibility that they hold for taking care of their own health, including holistic practices and, for example, the significance of healthy diet and physical exercise. This learning is reflected in the media, in scientific journals and is beginning to be reflected in policy which promotes integrated care as a more promising model" (Heales/Green 2017, p. 47).

In the policy field Energy, the mechanism of learning is reflected in the growing knowledge that consumers and other parties involved obtained from scientific reports, media and politics regarding the necessity of realising a sustainable system. Next to that they have growing knowledge of technical, legal and funding possibilities relating to renewable energy. They develop the capacities needed to produce or save energy which stimulates the start of local initiatives. These factors empower them to take action towards realising a sustainable energy system through social innovations.

Collective learning hence leads to mutual reinforcement mechanisms that may cause social innovation initiatives to emerge and new social practices to spread.

The governance of the process: what is the dominating path of social innovations in the practice fields (embedded in politics, shifting to the market (social enterprises), remaining in civil society)?

In policy field Health, there is a basic path social innovations take: either there is a buy-in by policy at some point, and the social innovation is made a public health care service. Or it remains outside the public social care systems and continues to be carried on by the initiative. In practice field e/m Health a dominant path seems to be that innovations are developed outside the public health care system and then can be commissioned at some point. There is a high uncertainty associated with this on part of the developers. Obviously, the number of solutions that do not get commissioned has to be high, and there are many twists and risks along the way. In Health, especially in the practice field New Models of Care, there seems to be far less collaboration with policy makers in the early stage of developing the innovation than in the other practice fields. Many of these interventions were set up in reaction to a latent or expressed demand from patients or society that was not being filled by state actors. As such, initiators often had to begin the process of innovating alone.

In the policy field Education, especially in the practice field Reducing Educational Disadvantages, the policy frame is dominating. Institutionally dense education systems with their interlocked regional, national and federal

state-level responsibilities have strong path dependencies and vested interests that encourage *compensatory rather than transformative* social innovations – although the difference is not always well defined.

For the policy field Environment, the SI-DRIVE global mapping shows that there is a strong involvement of private companies as actors in the social innovation. Economic returns from own products and services in the funding of these SIs play a prominent role in the area. This does not mean that social innovation initiative do not receive public funding at some point in time, however, there is often a business model behind that requires revenues through operation.

In the policy field Employment, most social innovation initiatives are unconnected and isolated; therefore initiatives in the area are "not very coherent" (Oeij et al. 2017b, p. 29). The practices are in many cases about improving "skills and competencies" (Oeij et al. 2017b, p. 29), and they often display an entrepreneurial character. The role of public policy and programs is very important. Most activities (not workplace innovation) receive public funding in some way.

Many activities in the policy field Mobility, e.g. shared car usage, are market driven. Some roots in civil society can be detected, for instance students' projects, most of which had some local policy support in the beginning but ultimately this practice field is dominated by market logics. Most companies postulate a commitment to sustainability, but business rationality and profits seem to prevail. The same applies for Lifelong Learning (Education), in which different areas of competition can be identified: market competition, competition for resources, and competition for values, beliefs and practices (Schröder/Kuschmierz 2017, p. 55).

In the Energy policy field, Energy collectives are a relatively new concept in the energy market. Because they often operate locally, they contribute to a movement from the traditional centrally organised system towards more decentralized energy systems. There are different reasons for citizens or other parties to start energy collectives and therefore becoming a market player and/or an energy self-provider. One reason for many collectives is to be independent from the traditional market players such as large suppliers. They are distrusted and thought to be too slow in implementing sustainable energy solutions. This distrust can partly be explained by the liberalisation and the following commercialisation of energy companies, enabling companies to take decisions based on commercial value rather than on societal value. Other reasons for starting collectives relate to cost savings and the reinforcement of the local economy. The increasing number of energy collectives among other new players in the energy market changes the role of local and regional governments as they are required to operate in a different way towards them compared to the large energy companies they are used to work with.

Key conflict lines

The in-depth case studies did not reveal much information on conflicts between social innovators and social innovations. Instead, the results pinpoint towards tensions between social innovators and some incumbent practices. In principal conflicts can exist between

- Different social innovators
- Social innovators and the institutional frame (legal, cultural, etc.)
- Different social interests.

Nevertheless, some policy fields are grounded on a fundamental tension or conflict line between societal interests:

- In policy field Education the key conflict lines are between different understandings of how to frame and provide education, i.e. tensions between innovators and the traditional education system.
- In policy field Environment, a conflict exists between the awareness of the costs of excessive consumption coupled with mismanagement and accumulation of waste. The realization that resource use outpaces the ability of the world to recover is a deeply rooted conflict that motivates many SI initiatives.

- In policy field Health and Social Care, the basic conflict - on a more abstract level – relates to the limited care for the vulnerable, poor and sick that undermines aims for self-dependence, self-sufficiency, social integration, often from early on, in case of children and young people.
- Further lines of tension and conflict between different societal interests occur in policy field Environment, when producers and retailers promote an early replacement of goods that still retain substantial physical usefulness but neglects that an accelerated cycle of buying-using-discarding a product inflicts additional cost upon society in terms of increased waste, energy and environmental, production and transport.
- The energy system is in a transition from a central, fossil fuel dominated system towards a renewable energy based system, including more local production. The transition involves many disruptive changes and therefore leads to conflicts. The basic conflict line is between new parties (e.g. social innovation initiatives) entering the energy market and incumbents see their business models being threatened.

Another conflict lies in the conditions for public financing, where social innovators depend on public support. Public financing schemes follow their own criteria and indicators of accountability, which may only partly reflect social innovators criteria of performance. E.g. applying Work Integration Social Enterprises (WISEs), are a labour market scheme intended to re-integrate people with different employment histories, to social enterprises that need a skilled labour force in order to be operational may lead to conflicts.

The key fields of controversy in many cases are the discussion about the legal framework conditions. This seems to be a long standing process due to given framework conditions, the acceptance and willingness to change and the role of politics vary from country to country.

In policy field Mobility, many initiatives in the practice field Shared Car Usage have to cope with the legal frame. Some aim at adapting this frame, others challenge it. In Mobility of vulnerable groups, conflicts (i.e. critical events) have been important as an incentive to start the initiatives. In the start-up phase, conflicts with local enterprises and/or chambers of commerce are reported due to the fear of increased competition.

In the Energy policy field, legal structures governing SI initiatives, i.e. collective organizations, differ from country to country. In the context of e.g. Ireland there are very few institutional frameworks available for such enterprises outside of cooperative structures and charities. This is a limiting factor in the practice field of Energy collectives. Additionally the failure to recognize the social aspects of such innovations within, for example, planning and regulation, has meant that projects aimed at producing a social good, that do not prioritize profit, are forced to follow the same stringent and sometimes expensive regulatory framework as a profit making enterprises.

Another example illustrating the importance of the existing legal framework can be found in Spain: A barrier for upscaling and growth of energy collectives was the change in legal framework concerning renewable energy. The amendment of laws in the field of electricity generation in 2012 has made energy collectives to evolve in a different way than it usually did. The Spanish renewable energy market was based on a feed-in tariff system. But in 2012 the Spanish government temporarily stopped accepting applications for projects beginning operation after January 2013.

6.3.2 Institutionalization and the Role of Politics: Key Aspects of the Process

As pointed out in section 2, institutions act as an indicator for the dynamic and the impact of Social Innovation. “Institution” is a transversal concept that has been adapted in different disciplinary discourses. Institutions can be studied as guiding social practices and they are designed by social practice. Following this, two questions concerning institutions are in the centre of this section:

Firstly: Do social innovations establish or change institutions that encourage and support the rise, growth and spread of social innovations? This question is strongly related to the design of a Social Innovation eco-system and entails several sub questions:

- Establishment of strategic networks between social innovators (see 3.1.2)?
- Building of new organisations (intermediaries, hubs, platforms, associations, fora, conferences) that support social innovations

- Impact on the regulation systems (handbooks, guidelines, norms, standards)
- Manifestation in laws, rights or bans
- Formalisation of knowledge (lectures, handbooks, guidelines)

Secondly: How do social innovations affect the frame or the mode of governance in a practice or policy field? All social innovators act in a social and political setting. social innovations often are in conflict with this setting and aim at changing these conditions. Therefore, the impact on changing the frame in practice or policy fields can be seen as a key indicator for successful Social Innovation.

Institution building (like the eco-system) or change of the institutional frame partially results from a bottom-up process and seldom works coordinated and targeted. As pointed out in the introduction to this chapter, we see politics as the reflective part in the process of Social Innovation. This does not mean that the impact of politics is a supporting one in all cases. Many case studies show that policy failure is a key driver for social innovators. At the same time, politics is interested in Social Innovation as a contribution to cope with global challenges in a successful and sustainable way. In this section we concentrate on the role of politics in promoting, supporting, and making use of social innovations or in other words, to make the process of Social Innovation more rational and targeted, without forgetting the aspect of policy failure. Key questions in this respect are:

- In how far is policy failure triggering social innovation activities?
- What are the modes of policy that can be found in this policy field (distributive i.e. funding programs, redistributive, regulation, moderation, nudging, or awards)?
- In how far does policy frame the general process of Social Innovation (legal status of social innovators, general programs, funds, transfer strategies, research centres) and can we observe the rise of a Social Innovation eco-system?
- Are there recognised examples in which Social Innovation strategies solve problems or realise goals better than given strategies?
- In how far is policy a hindering factor (see 6.3.1.)?
- Are there individual politicians/members of administration who support specific social innovation initiatives? (see 6.3.1.)

Institutional frame for social innovations?

In an ideal world, the relationship between different social fields would be characterised by the co-evolution between changes in social values that is driven from an awareness of the grand challenges, politics that are framing and supporting this change as well as collective learning that leads to new social practices and underpins theses practice by a strong institutional setting. In reality, there is at least a twofold time-lag: a time lag between different regions or countries because the countries have different priorities depending on their social and economic conditions, and a time lag between value change, new or changed institutional setting and policy action. This time lag has a lot to do with established structural settings and corresponding power relations, which explains for instance why politics works as an enabler of Social Innovation in some cases and as a barrier in other.

Social Innovation in the practice field Repairing, Reusing and Recycling for instance is closely associated with Social Change as to whether people allow for their goods to be re-used, as well as to whether people accept using second-hand goods. Ateliere Fara Frontier (AFF) in Romania achieved institutionalization via its reach: sold products, donated goods, number of beneficiaries. AFF also tries to raise awareness and establish recycling and reuse in the culture and values of the Romanian society.

The system for the collection and recycling of hazardous waste in Bulgaria intends to achieve institutionalization via a change of peoples' daily practices. Actually, the separation of waste is not very popular among the population in Bulgaria. At the same time there are already a stable percentage of citizens with "green" thinking who are aware of the possible ways to environmental protection and further feel a desire to be informed. Other municipalities in Bulgaria (Plovdiv, Shumen, Sliven, Veliko Turnovo, Radomir, Sredets, Levski and Bansko) have implemented the system for the collection and recycling of hazardous waste in their territories.

Nevertheless, there is a certain dynamic in designing an institutional frame for Social Innovation in general. Bulgaria and Romania are on the way to become aware of the potentials Social Innovation can carry. Russia,

another example, is actively developing the sector for non-profit organisations (E34), so is China aiming at promoting social enterprises. However, the development of an institutional frame cannot wait for the readiness of politics; it has to go hand in hand with bottom-up activities.

In section 6.3.1., we discussed the activities that aim at capacity building and professionalization, and we examined the establishment of strategic networks between social innovators. From discussions on economic innovation it is known that those intermediary and mediating organisations are key actors in the knowledge flow of innovation. In Social Innovation, interaction starts with less formal institutions. In the practice field Reduction of Educational Disadvantages, for instance, interaction happens in formalised, established and informal networks and communities. On the one hand there exist many relevant networks and communities, on the other hand more informal communities of practice arise.

In contrast, in the practice field Shared Car Usage strong competition and no recognised umbrella organisations, networks or professional organisations exist. Similar conditions can be found in the practice field Mobility of Vulnerable Groups.

In most cases, social innovators lack a certain degree of professionalization. In the practice field of Shared Car Usage "none of the case studies reports embeddedness under an umbrella organisation, specific networks or professionalised organisations for sharing cars" (Rabadjieva/Butzin 2017, p. 13). This fact speaks for the lack of professionalization inside the practice field. Insofar, formalisation of knowledge (lectures, handbooks, guidelines) is crucial for the dissemination and institutionalization of Social Innovation.

It seems, that institutionalization in the practice field Repairing, Reusing and Recycling is a good example: apart from the spread of new practices, paths of institutionalization take very different forms. Myrorna, a Swedish project that aims at reusing a range of goods, for instance, achieved institutionalization by participating in a voluntary certification system "Nordic Textile reuse and recycling commitment". Some social innovators in the field promote standards for durable and easy-to-repair goods. Such a standard has been implemented in Austria already, it attracts a lot of attention and is currently being discussed on EU-level and is likely to be developed by the European standardization group CEN/CENELEC. Furthermore, one social innovator is part of the joint working group 10, newly set up by CEN/CENELEC, in order to work on the development of standards on 'material efficiency' aspects of energy-related products (CONNECT, 2016).

Further examples for institutionalization from bottom-up are " Mama works" in Russia that contributes to firm foundation by micro-financing and capacity building or NOVA ISKRA (Serbia) that launched campaigns, trainings and projects to make the idea of Social Innovation more prominent.

The intensity and the paths of institutionalization are different form practice field to practice field. In the practice field Workplace Innovation, the authors conclude that the practice field seems to be growing and spreading, with the definitions and applications of workplace innovation becoming more evolved and useful for both, practitioners and researchers. And the conclusion for the policy field Education is: "[…] Institutionalization and planning of social change are not elaborated systematically and an unlocked potential for the diffusion and transformations is evident" (Schröder/Kuschmierz 2017, p. 105)".

Institutionalization, even from bottom-up, is often strongly linked to politics. When we look at institutionalization from a project perspective, two lines of institutionalization are of further interest:

First of all, various examples demonstrate that Social Innovation contributes to capacity building in the public sector. Examples from our projects are:

- The Istanbul Metropolitan Municipality (ISMEK) in Turkey strongly contributes to capacity building in Istanbul and it disseminated in other cities. A protocol was signed with the Turkish Employment Agency and a lot of organisations involved in employment policy work as partners of ISMEK.
- Actions and services deployed by Servicios Sociales Integrale (SSI) became the measuring board for further requirements in further Municipal calls. "Moreover, the fact that this initiative has been driven by women as a cooperative and a strategic innovative vision, contributed to develop new values and beliefs within the home caring sector, among all society.

- The Xiezhi Hotel project in China that helps university graduates to find employment contributed to make the employment system in china more professional by organizing training programs on the skill of job interview, composing the job map in Hangzhou city and to build a platform of information exchange for university students and companies.

Secondly, in several examples successful projects became the root of political programs that were launched in order to transfer the knowledge gained in these projects and/or disseminate and professionalize the activities in a practice field. Selected examples are:

- The Repair and Service Centre (RUSZ) in Austria achieved institutionalization in the form of further firm foundations, in order to complement the repair service firm, a Disassembling and Recycling Centre was founded, including the TrashDesign Manufaktur (producing jewellery from trash). Further on, RUSZ established networks of repair service firms, locally (Vienna Repair Network), nationally (REPAnet) and EU-wide (RREUSE).
- In 2014, the RRR White Book was published by AFF and 6 other environmental organizations. The White Book presents facts, numbers and a series of proposals for a volunteer public policy. (see Ateliere Fara Frontiere 2014; Annual Report).
- Further examples are AFF that contributes to the discussion on social enterprises and their legal conditions in Romania
- She Taxi (India) diffuses to all Metropolitan areas in India and is supported by state government.

Challenging and changing institutions by Social Innovation?

As mentioned above, we see institutions as an indicator for social practices. Therefore, it is not surprising that Social Innovation often faces conflicts with given institutions and regulations. In the policy field Shared Car Usage, UBER is studied as the best known example of challenging institutions/regulation. In Live Long Learning we find pressure on current educational procedures and systems and in in Bulgaria and UK in the Shared Car Using the initiatives encounter laws (transportation in Bulgaria, Environment in the UK) as a barrier for scaling.

The conclusion in the practice field Reduction of Educational Disadvantages is characteristic for other practice fields, too: “Because of the system dependency of the initiatives innovations are more incremental and compensatory than transformative or disruptive innovations, they are punctual and limited to specific needs not covered by the system or because of limited capacities of the system actors.” (Schröder/Kuschmierz 2017, p. 49). Insofar, the limited capacities and the close interrelation of the social innovation solutions to the formal education system and the limited ability of system change are reducing the possibility of institutionalization.

There are two aspects to challenging institutions and especially regulations. One links to the “dark side” of Social Innovation, which may occur when social innovators aim at weakening or abolishing rules of labours, health, or environment protection for personal gain. Research about economic innovation has shown that the role of regulation as a driver for innovation has been underestimated for a long time and it makes sense to study this aspect for Social Innovation in greater detail. The other aspect is that institutionalization in the mode of regulation can benefit from cooperation and synergy with policy-making. This is especially important in strongly regulated police fields like health policy.

The collaboration with the formal system or the public sector is the main success factor for institutionalization. In Health, especially if social innovators want their new health and social care services integrated in the public healthcare system, a “twin strategy” seems often successful, where the “twins” are, the assembly of a critical mass of like-minded and sound empirical evidence of the invention’s impact. On the one hand, social innovators seek support from existing organisations and build own organisations to assemble a vast set of like-minded and allies. Conferences, patient organisations, international professional organisations can play a crucial role in convincing national or regional policy or financing parties. In Austria, strong axes of the European Association for the Study of Diabetes (EASD) as a non-profit, medical scientific association, and the International Diabetes Federation (IDF) as an umbrella organization of over 230 national diabetes associations in 170 countries and territories, helped to overcome regional and national scepticism and opposition in the implementation of a social innovation in Diabetes treatment.

The other part of the "twin" strategy (providing empirical evidence) is so vital in the area of medicine, and can be tricky where RCTs are not possible. E.g. in Alternative Augmentative Communication (AAC), only little systematic evidence of its impact exist as the conditions of people who use AAC technologies are so different that it is very difficult to compare in sufficient numbers.

Summing up, institutionalization can work as an accelerating frame for the dynamic of the Social Innovation process and the case studies show five different modes of a shared (but broad) framing:

- Campaigns or programs for social enterprises, as they exist in China and Russia.
- Programs for Social Innovation like the European Social Fund (ESF)
- Thematic programs, e.g. climate change mitigation programs, programs against food waste, public programmes on e/m Health.
- Economic challenges and a decline of the welfare state leave a void filled by SI initiators
- The overall cultural and legal frame that shapes the mode of implementation of SI within the specific national state.

In the practice field Shared Car Usage the frame can be seen in general value change (reduced importance of car ownership as status symbol, general spread of shared economy ideas combined with awareness of energy saving). The cultural and legal frame is especially important here and opens up windows of opportunity or makes it more difficult.

There are initiatives in the in-depth cases which are the explicit result of the mediating role of public actors and public programmes. Public programmes incentivise social innovation initiatives that try to compensate for inertia by individual actors in mediating and organising processes of exchange. With different mechanisms of soft governance, individual processes of change shall be activated that would have been less likely to unfold without the public programmes/projects. However, it is often unclear how these projects unfold further after public financing has ceased. In many cases it also means the exit of initiatives.

Hindering, encouraging, supporting and framing – the manifold roles of politics in Social Innovation

When we discuss the reflexive part of policy in the Social Innovation process, we have to keep in mind that the role of policy is a very complex and partially Janus-headed one. To start with, we repeatedly see in our empirical material that policy can be a cause for Social Innovation. This is most obvious as consequences of cost-cutting strategies in the welfare system. I.e. by summarizing the practice fields in the policy field Employment, the authors conclude that "the decline of the welfare state enables social innovators to fill a void when social risks were shifted from the states to civilians" (Oeij et al. 2017b, p. 63). In practice fields related to Energy, Environment or Mobility, social innovators think that policy acts too slowly in order to initiate the transition processes needed to cope with the global challenges because policy is influenced by vested interests.

To continue, the impression of policy and economic failure results in scepticism towards politics and economy, a reason why several social innovators stressed a disinterest in being supported by government. In contrast, they are interested in gaining autonomy against the consequences of policy involvement and funding. This includes a pessimistic view that sees that the relation between promoting social innovations with public policy is that public actors, under constant financial pressures (austerity) as they are, use the label and concepts of Social Innovation to not take responsibility for tasks that – in essence – are public tasks.

Back to the reflexive part of policy, the first question is whether we can expect or approve that social innovations have to be supported or adapted by the political field as well as what are the criteria for politics to decide what kind of Social Innovation to support or not. This has been discussed in our policy fora and is part of the discussions in theoretical thinking as reported and reflected in the Second Policy Brief based on the international Round Table - Policy support for social innovations.

In addition to this detailed discussion three aspects will be pointed out in the report to understand the relationship between Social Innovation and politics. Firstly, social innovations do not represent some kind of "volonté generale" per se. They show one possible way to cope with societal challenges or problems; however, there are further solutions. Social innovations in most of our case studies are based on engagement and responsibility but by aiming at different and better solutions they stand in contrast to already existing solutions

and their corresponding actors. This is especially true in the practice field shared car usage as pointed out when we discussed the question of institutionalization. From the point of social innovations, standards and regulations in this case rather can be considered obstacles, however, from a political point of view there are good reasons for regulations concerning service quality, insurance, work conditions and so on.

Secondly, there is a systematic tension between some kind of social innovations and policy, especially in those practice fields that are related to the welfare system. Social innovations in most cases start in a niche and often remain local. Scaling is not per se in the interest of the social innovator, thus the group of beneficiaries remains limited and selective. The positive effect is that high engagement and rising experience leads to an intensive inclusion and empowerment. This is typical for the experimental character of Social Innovation. Transferring these results on the policy level and make use of them for reforming the welfare system needs a broader approach. The notion of the universal welfare system is based on the principle that everybody should be in the possession of the same rights. Access to public service should be independent from income, class, gender and so on. Transferring the results of experimental Social Innovation by politics includes therefore the need to overcome the selective character and to assure that all potential people get access to the new solution.

This leads to the third aspect that social innovations often are based on a combination of personal, social and financial resources that enable successful new solutions. But making use of these solutions in a broad societal frame needs more resources from policy. We started our argument in part 6.1. with the assumption that cost cutting policy is a reason for the need of Social Innovation, thus we cannot expect that policy takes up social innovative solutions if these are more cost-intensive than established solutions. Despite these tension and conflicts, policy is interested in Social Innovation and recent dynamics in social innovative activities cannot be understood without the impulses given from policy. Summarizing the reflexive role of politics, we have to distinguish between two levels of intervention.

Policy aims at **promoting and supporting social innovation initiatives** in general. In this case, the most important aspect is to build up a Social Innovation eco-system. In our case studies are manifold examples of policy attempts that aim at implementing a legal status for social innovators, of general programs that support social innovation activities, related funds, and first ideas for social innovation centres, laboratories and related transfer strategies and so on. Further on, the case studies show many examples of the engagement by individual politicians or members of administration who supports specific social innovation initiatives. Some are supporting social innovators by own engagement, other work as stakeholders for social innovators in their own administration. The chance for such individual support depends on the degree of decentralisation and regionalisation of the implementation system. These strategies are not really integrated so far and they differ between countries. In certain terms they aim at a new division of labour between market, civil society and policy.

Second, there is the question of making use of social innovations within the individual policy fields. The impression from our case studies is that social innovations initiatives differ markedly between policy fields which makes it hard to generalise the role of policy.

6.4 CONCLUSION

6.4.1 Social Innovation – Waiting for a Stronger Dynamic (first approach to build a typology see the matrix at the end basing on three policy fields)

Currently we see a rising interest in Social Innovation. The range of social innovations that have been studied in SI-DRIVE's global mapping and case studies seem to be very heterogeneous and experimental. Flourishing, stagnating and withering activities can be found in all policy and practice fields. In this section, we attempt to work out a more systematic view by presenting a typology of social innovation activities that focuses on the processes, or the dynamics of Social Innovation. When doing this, we have to keep in mind that a typology is always selective due to its specific focus. For instance, when we ask for the societal field where a social innovation activity is anchored, one must be aware that anchoring does by no means exclude links and interaction with actors from other societal levels.

This typology is based on two dimensions:

First, process dynamics depend on the societal domain where the social innovation is anchored. We concentrate on three dominating societal domains: the civil society, the economy as well as politics. When we talk about societal domains we see that each societal domain is driven by a specific logic, however, aspects of the other societal domains can be found as well (Bourdieu 1995).

Second, process dynamics are often grounded on the mode and the intensity of interaction. The modes of interaction are the classical ones: competition, cooperation and hierarchy. The intensity of interaction depends on the degree of exchange between the social innovation activity and on the strength of the general idea that is behind those activities.

The following table (table 3) presents these two dimensions. The nine boxes within this table stand for the different process dynamics that are the result from the interplay between the two dimensions. It is important to keep in minds that these are ideal types only, and in reality more examples exist that stand in between these types. Moreover, in the course of time social innovation activities can move from one box to another.

Interaction/ Societal field	Economy/Market	Civil Society	Politics
Fragmented/Niche	1. Company based	4. Temporary Niche	7. Experimental
Fragmented but partially framed	2. Entrepreneurial	5. Community based	8. Embedded
Societal/Global	3. Disruptive	6. Global movement based	9. Top down

Table 3: Types of Social Innovation from a process dynamic perspective

The first three types are anchored in the economic domain.

1. **Company based** Social Innovation is driven by companies and focus on the internal structure of the company. The implementation is fragmented. Exchange or common platforms are marginal, and political support can be found only in very few cases. The driving forces behind such activities relate to demographic change, shortage of qualified labour and/or economic pressures. The process dynamic is low maybe slowly rising because of ongoing pressure. This type is best documented in the praxis field of Workplace Innovation and there is a certain overlap with some cases in the practice filed Reduction of Educational Disadvantages as far as the (re)qualification of elderly people is concerned. Partially, strategic concepts of corporate social responsibility provide the frame for workplace innovation however there are only few hints in the global mapping and the case studies.
2. **Entrepreneurial Social Innovation** drives social innovation activities that are based on a new balance between economic and social goals. They follow professional business models and aim at least at limited scaling. The interaction is competitive and market driven with competition not just based on prices but on social reputation, too. In spite of competition, social-led enterprises are framed by several platforms, associations or networks that work on all spatial levels. The dynamic varies from country to country and depends on factors like welfare system and the traditional division of labour between state, market and civil society, the specific legal framework conditions for social-led enterprises, the Social Innovation eco-system as well as funding opportunities. This type is not specific for a certain practice field rather can be found in a broad range of practice fields. Different variations of this type can be studied in the practice field Social Entrepreneurship and Self-Employment. Some countries, especially Anglo-Saxon countries, exhibit the most prominent mode of social innovation activities whereas in other countries, e.g.

China or Russia, political attempts to establish a fitting eco-system for social-led enterprises become visible.

3. **Disruptive social innovations** are based on digital business models and often are financed by venture capital. They are distinctive for the mode of the shared economy that roots in the idea on sharing/marketing individually owned goods. They are disruptive as they act against given political standards/regulations which, in turn, are seen as a hindering factor. Interaction is market driven and competition is based on a large community which renders scaling essential. Due to high levels of competition, the establishment of common platforms and exchange is rather limited. Competition, partially on a global level, and digitalisation are the driving forces for a high dynamic, at least in the starting phases of the business activities. In the long run the dynamic depends on further (de)regulation and the power of established actors. This type is typical for social innovation activities in the praxis field shared car usage.

Three types of Social Innovation are anchored in the civil society.

4. **Temporary niche** stands for a type of Social Innovation that is limited in time and space. It is driven by often highly engaged actors who aim at solving a specific local problem. Individual engagement is dominating, personal social networks are used. Pragmatism or muddling through goes hand in hand with a low degree of professionalization and with high support from volunteers. Political support is limited and often remains informal. Interaction with other social innovation initiatives is limited and there is no reference to a global societal trend. In consequence the dynamic is often limited. As far as scaling or upgrading takes place, this type shifts to type two when it becomes marketed or to type seven when it achieves reliable political support. Examples for this type can be found in many practice fields, e.g. in Displacement and Refugees or New m models of Care.
5. **Community based** social innovations have a strong focus on self-organization, in some cases they aim at strengthening local communities. They are based on a broader local community and the organization of the network is in need for a certain degree of professionalization. Local politicians are often involved, financial support by government funding is used as far as possible. Action is taking place at local level, however, communication strategies are launched from time to time. Often they are backed by a global societal trend (e.g. environment, renewable energy, local food) and to some extent; by formal or informal, national or global networks that provide orientation. The local dynamic is high and stable in the long run; spill-over for instance from autonomous energy supply to local food is possible. An overall self-enforcing dynamic is an untapped potential so far and depends on political factors (decentralization or regionalization, funding, regulation, and so on). This type of Social Innovation is characteristic for practice fields in the area of Environment and Energy (local production of energy, energy services, repair, re-use, and recycling, sustainable primary production of food). Further examples can be found in the praxis field Community Capacity building.
6. **Global movement based** Social Innovation is anchored in civil society and is not directly a result of SI-DRIVE's global mapping or case study activity. Civil societies differ across countries and the notion of "multiple modernity" takes into account that there is no common global way to modernity. Nevertheless, there are some social innovations that become adapted all around the word. Cooperative modes of car sharing, activities to protect and empower women, local food and local energy supply are just a few examples. Depending on the state of civil society as well as on regional or national cultures, these activities are implemented in very different ways; however, there is always a common idea behind such activities. Imitation, learning, and adaption are the key modes of interaction. This type of process dynamic differs from previously discussed types as it does not stand for a single project, but for a group of projects that are receiving increasing attention. So far, the dynamic is growing but still limited in scope. Maybe the future dynamic of those social innovations depends on further modes of informal and flexible interaction in the way Appadurai calls it "cellular". Some impression of the potential of this type can be found in the practice fields of community capacity building and integrated care.

Three further types are anchored in the political domain.

7. **Experimental** social innovations are based on funding programs, are organized as projects, and are limited in time and scope. Those funding programs cover a broad range of activities and a certain degree of professionalization is essential for the initiatives due to formal conditions and terms of the calls. The projects stand for themselves and are fragmented; interaction is very weak as an organized exchange between the different social innovation projects does not occur in most instances. Therefore, we cannot expect widespread dynamics from this type of Social Innovation. Nevertheless, there are some projects that provide strategies and the instruments for that are embedded in a practice field, implying that this activity shifts to type eight. Examples can be found in the praxis field new models of care.
8. **Embedded** Social Innovation stands for a type of Social Innovation that is more or less an integrated part of a specific practice field. This type of Social Innovation is based on financial resources from government. This could relate to specific calls for new solutions in a certain practice field, or resources are provided in the context of implementation. In the first step, social innovation activities of this type are fragmented like in type seven, however, if successful they give impulse to strengthen the welfare system in compensating for its weaknesses. There is a certain dynamic as these social innovation activities have the potential to become an established part of the welfare system. In this context, professionalization and the development of a business model are crucial and we can expect that there often is a shift in type two (entrepreneurial Social Innovation). Typical examples can be found in the practice fields of youth unemployment, mobility of vulnerable groups, reduction of educational disadvantages, providing examples and inspiration, and last, integrated care.
9. **Top-down** social innovations are based on central political programs that combine incentives, support, nudging, regulation and prohibitions. The mode of interaction is hierarchical, but the dynamic depends on the acceptance and the active involvement of the people addressed. In show cases policy provides the impulses, a frame for the practice field, and enables the rise of activities from civil society and/or economy. The best known example for a failed top down social innovation is the prohibition of alcoholic drinks in the USA in the 1930s, and more recent examples are non-smoking incentives and regulations. In our case studies we find examples in the practice fields of income support as well as in centralized countries like China or Russia.

Summing up, we have to be aware that these types are ideal types and the matrix is static in nature. The examples studied have shown that social innovation activities can move from one type to another in the course of their life-cycle, and in particular across different columns. This includes to change the origin of anchoring for instance from civil society or policy embeddedness to market driven activities. Further on, there is a potential to shift from a fragmented niche via more interactive or framed social innovation to a global dynamic. The majority of our case studies are in the two upper rows and this is caused by the often infantile character. The challenge is to move into the boxes of the third row in order to make the potential of Social Innovation work. This move can stay anchored in civil society; it can be market driven, or part of policy strategies.

6.4.2 Social Innovation Process – Conclusions: In What Regards Does Our Framework Move Beyond the State of the Art?

The recent dynamic of Social Innovation is a young one and therefore a lot of social innovation activities are still on a small scale and far from having systemic impact. Nevertheless, our reflection suggests several aspects that will be important when we want to understand the process dynamic of Social Innovation.

To begin with a simple but basic aspect: as shown in our typology, the process of Social Innovation is neither a linear one nor can it be understood by focusing on specific aspects like imitation or scaling. So, social innovations do not necessarily start as bottom-up initiatives that subsequently scale and spread (or not). Many examples of initiatives have been prompted by genuine concerns with social needs, although the initiative did not necessarily come about due to bottom-up initiatives from those who were directly affected. Furthermore, bottom-up does not necessarily mean coming from a local community, but it can equally mean "national" in various cases, depending on the initiating organization. If, for instance, the initiator is a nation-wide NGO, implementation may start nationally. The diffusion or implementation of Social Innovation follows very different paths and these paths can change in the course of diffusion. Further on, we have observed that the same idea – for instance micro funds - can be adapted in very different ways depending on the societal cultural frame.

Moreover, the dynamic of Social Innovation – defined as new practices – cannot be understood when we ignore the different roles of government institutions and the interaction between public and non-public actors. Discussion of Social Innovation often claims that social innovations are good or better when we want to cope with social challenges, and politics - from this point of view - have to make use of Social Innovation or - if not – act as an obstacle. SI-Drive follows a different line of argument: social innovations are not good or bad in a normative sense; they even can have negative impacts. As a consequence, in certain cases there are good reasons why government does not support initiatives, for instance when social innovations challenge or even contradict existing regulations in health, security or labour affairs.

This leads to the next point: Social innovators in almost all cases are motivated by personal intrinsic incentives and responsibility. They often challenge incumbent practices, actors and interests. Social innovations result in change of social practices and this includes that we have to analyse the different interests in the framing of societal change. In most identified cases of the SI-DRIVE mapping activity, conflicts are located on the project level, serving as an expression of the young state of most social innovation activities. But some cases show that with a rising dynamic and spread, the conflict potential is growing. Again, the modes to cope with conflict are very different. As there is no "invisible hand" to resolve such conflicts, in most cases they end up on the judicial or political agenda and, in the case of successful social innovations, may well result in changes of regulation or governance.

The different growth paths of Social Innovation lead to the question of a new division of labour between politics, civil society and market. The question goes beyond the simple assumption that there is a trend to shift societal tasks form the public authorities to the market or the civil society. The societal challenges need contributions by actors from all societal fields. The question is not about state or market failure. The question is, whether actors from civil society or from the economic field have the capacity and the competence to cope with societal challenges in a reliable and effective way. We know that social innovation initiatives often rely on media to make their projects prosper and gain attention form user/followers. Although this is an advantage in many cases, it bears risks as well. Media have their own rationality and neglect initiatives that are e.g. too peripheral. Probably, there is no general answer. For instances, the basic needs of societal welfare and conditions of life have to be guaranteed for all people and cannot depend on the selection of the market or civil actors. In other cases, like energy saving or mobility, there is no best solution so far and social innovations embedded in policy, market or civil society are working side by side in an experimental way. In any case, the dynamic of Social Innovation needs professionalization and a fitting organizational frame, which may become the most challenging task: how to sustain the high level of responsibility and engagement of social innovations when Social Innovation becomes part of the established institutional setting.

7 TOWARDS A TYPOLOGY OF SOCIAL INNOVATION

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7.1 INTRODUCTION

Despite the growing public and academic interest in Social Innovation throughout the last decade (Moulaert et al. 2013), attempts to classify different social innovation initiatives have remained sporadic efforts by single European research projects. This is partly due to the fragmented landscape of Social Innovation concepts (as described in chapter 2), as a well-defined concept of Social Innovation, which can clearly be distinguished from other forms of innovation, is a pre-requisite for differentiating types of Social Innovation within these conceptual boundaries.

A SI-DRIVE typology of Social Innovation, therefore, has to be based on SI-DRIVE's definition described in chapter 2 of this report. It furthermore has to distinguish different types of Social Innovation by their relationship to Social Change, as SI-DRIVE sets out to conceptualize Social Innovation as a driver of Social Change. This means that we are looking for or are developing a complexity reducing typology to understand which social innovations are more fruitful for Social Change, and which are not. The typology should take into account - if possible - differences in the key dimensions developed, showing the different concepts, objectives, resources, actors and dynamics.

Based on the variety of social innovation initiatives all over the world, we are not aiming at developing only one central typology but reflecting on the existing ones and elaborating different discriminating approaches of typologies. The typology approaches, thus, build on SI-DRIVE's empirical results and theoretical insights. Before presenting these different approaches, the chapter at hand first lays out methodological considerations concerning typology building. Since Social Innovation often builds upon insights from innovation studies, we then present various types of innovation developed in this research area. Thereby, the typology follows the theoretical considerations explored in depth in the Critical Literature Review (Howaldt et al. 2014). Thereafter, this chapter will discuss chosen existing typologies of Social Innovation, before bringing together the theoretical considerations from (social) innovation studies with SI-DRIVE's own empirical results. SI-DRIVE's broad definition of Social Innovation as well as the key dimensions offer various points of connection for a typology. Thus, the empirical results cannot be clearly narrowed down to one single and all-encompassing typology, but offer a variety of opportunities to strategically reason different types of Social Innovation. Therefore, we will first briefly present three approaches of classifying the empirical results systematically which can be regarded as preliminary considerations that are necessary to be taken before a typology can be developed. Thereafter, we introduce three typology approaches emerging from the SI-DRIVE data. The underlying rationale of choosing these three approaches is that different foci and overarching research questions lead to different typologies that are conceptualizing the different focus or providing answers to the specific question asked.

7.2 METHODOLOGICAL CONSIDERATIONS: CLASSIFICATION, TYPOLOGY, TYPOLOGICAL THEORY

Before taking a look at the different innovation types and available typologies of Social Innovation, we need to understand what a typology incorporates and how it contributes to theory building. The following section sheds some light on these questions, by marking the contrast between classification and typology, and placing the emphasis on the latter.

Classification and typology are often referred to interchangeably as (Doty/Glick 1994, p. 232), "a grouping process: An object field is divided in some groups or types with the help of one or more attributes" (Kluge 2000). This understanding is based on a conceptualisation of the type – "constructed subgroups with common attributes that can be described and featured by a particular constellation of these properties" (ibid., n.p.). The very concept

of the *type*, however, is not clearly defined. Authors talk about ideal types, empirical types, structure types, prototypes or other forms of types (ibid.). Therefore, one can see that the term *type* is not reserved only for "grouping" as typology, but is also used interchangeably with the term class or category or, in some cases, to describe an independent variation of a phenomenon not included in a specific grouping concept (e.g. workplace innovation is studied as a specific type of innovation, however it can be grouped under Social Innovation or organisational innovation as elaborated below). This fact contributes to the confusion about the difference between classification and typology. While authors as Kluge (2000) and Bailey (1994) understand typology as a specific form of classification, other authors elaborate on the differences between the two concepts especially with regard to theory building (see for example Niknazar/Bourgault 2016 or Doty/Glick 1994).

Classification is generally defined in the literature as "the development of a classification scheme, which refers to a schema consisting of different classes and the relationships among them" (Niknazar/Bourgault 2016, p. 193). Doty and Glick (1994) and Bailey (1994) specify the definition even more, by pointing out that classification is the organisation of a phenomenon in sets that are mutually exclusive, exhaustive and based on specified rules. By taking the fundamental characteristics of a phenomenon and using them to build a matrix, different types of the same phenomenon can be distinguished. Bailey (1994), however, distinguishes between different forms of classification, based on the method of building them, and understands typology as a specific type of classification, namely a multidimensional conceptual classification, mainly used in social sciences. It stands in contrast to other forms of classification, such as taxonomy, which is a classification based on empirical data and used mainly in natural sciences (e.g. biology). This view is shared by other authors such as O'Raghallaigh et al. (2010), who also see typology as "conceptually-derived schemes" that are based on ideal types and most importantly have the purpose "of making predictions vis-a-vis certain specified dependent variables" (ibid., p. 372).

Doty and Glick (1994) take the differentiation between classification and typology even further. They identify typology as "conceptually derived interrelated sets of ideal types" (ibid., p. 232). Contrary to classifications, typologies do not provide decision rules, but identify multiple ideal types, which represent a "unique combination of attributes […] that are believed to determine the relevant outcome(s)" (ibid., p. 232). Similar to O'Raghallaigh et al. (2010), Doty and Glick (1994) recognize the purpose of typologies in predicting the "variance in a specified dependent variable because the […] types identified in typologies are developed with respect to a specified […] outcome" (ibid., p. 232). Therefore, the core of a typology is the ideal types, defined with respect to a certain outcome, while the focus of classifications is on grouping items in homogenous sets.

The complexity of typologies comes from the fact that they consist of two levels of constructs. On the one hand, the ideal types are built up from multiple dimensions characterising the studied phenomenon and represent unique combinations of these dimensions (first order constructs). On the other hand, the dimensions are described through specific variables and represent second order constructs (Niknazar/Bourgault 2016, p. 195). The ideal types may exist in the real world, but do not necessarily have to, because they are abstract constructs. Therefore, a very popular method of defining ideal types is the theoretical specification, which is based on theory interpretation from the researcher (Doty/Glick 1994, p. 237). Still, ideal types may also be specified using a sample to encounter most common dimensions, however this approach is limited to the items included in the sample. Another valid approach is marking the two ends of a continuum of ideal types by defining two polar types at first and then specifying others in between (as elaborated in chapter 4 when referring to technological/commercial innovation types on the one hand and social innovations on the other; see also Bailey 1994). No matter how the ideal types are specified, the important difference to classification is that the studied items in a sample should not be assigned to any specific type with complete overlap (Doty/Glick 1994, p. 233). The reasoning underlying this is that the purpose of typologies lies in measuring the fit or deviance of the second order constructs (variables of real entities) to those of the ideal types (Niknazar/Bourgault 2016, p. 195). Accordingly, the typology may contain ideal types which are not observed in reality, however, still represent a possible path for achieving an outcome. A good example for a typology is Mintzberg's (1973, 1979) organizational typology, focusing on maximal organizational effectiveness as an outcome. The author hypothesised that any deviation of a real organisation from one of the five defined ideal types (entrepreneurial, machine, professional, divisional and innovative organizations) will result in loss of effectiveness (ibid.). Therefore, by comparing existing organisations to the defined ideal types, strategies for maximising effectiveness can be developed.

Probably the most important difference between classification and typology, however, is their relevance for building a theory. Niknazar and Bourgault (2016) point out that classification is an important tool for building middle-range theories, but underline that typologies, on the contrary, contain multiple levels of theory. Doty and Glick (1994) recognize two levels of theory building in typologies: on the one hand, they offer an opportunity for grand theory building based on the predication they make and on the other hand, middle-range theories can be deduced from the construction of ideal types. The authors show that typologies meet the three primary criteria of a theory as "(a) constructs must be identified, (b) relationships among these constructs must be specified, and (c) these relationships must be falsifiable" (Doty/Glick 1994, p. 233). All of them can be found in typologies, first because typologies are based on the abstract model of ideal types; second, they "hypothesize relationships between the similarity of an actual item to an ideal type and the dependent variable(s)" (Doty/Glick 1994, p. 234), and third, the predictions made with a typology must be empirically testable and possibly put to disconfirmation.

Analysing the advantages of such a typological theory, Doty and Glick (1994) point out that typologies are useful for specifying non-linear relationships between constructs; they represent the multidimensionality of attributes; they are not subordinated to empirical evidence and incorporate a high degree of equifinality, because each ideal type is defined with respect to the desired outcome, which shows that different paths can be taken (Doty/ Glick 1994, p. 244). All of this, however, shows that typological theory is much more complex than other bivariate or interaction theories. To be complete, it requires a large set of constructs (i.e. ideal types) and therefore multiple middle-range theories to explain one phenomenon (ibid., p. 245). Nevertheless, such complexity is necessary to explain complex phenomena such as Social Innovations.

- Classification and typology are both based on grouping objects into *types* with the help of certain attributes.
- In a classification, existing cases are grouped into *types* or *classes* which are mutually exclusive, exhaustive and based on specified rules.
- Typology is a more complex variation of a classification consisting of abstract constructs called *ideal types*.
- The *ideal types* represent possible *paths* an entity can take to achieve a certain specified *outcome*. They may exist in the real world, but do not have to.
- On the contrary to classification, the entities studied in a sample are not expected and do not have to completely overlap with an ideal type in a typology. The purpose of typologies lies in measuring the *fit or deviance* of variables of real entities to those of the ideal types.
- Classifications help building *middle-range theory*.
- Typologies contain *multiple levels of theory building*. Therefor they are a useful tool for studying a complex phenomenon.

Table 4: Classification vs. Typology at a glance

From this background, we consider the typological approach as a useful tool and enriching contribution to the development of a Social Innovation theory. Relying on the SI-DRIVE theoretical underpinnings (precisely the key dimensions and mechanisms of Social Change) and the data collected during the two empirical phases (mapping 1 with 1005 cases and mapping 2 with 82 in-depth case studies), we see an opportunity to analyse and group social innovations in many different ways. Before we elaborate on our approaches for classifying and defining types of Social Innovation, however, we reflect on the lessons learnt from the research conducted so far and use it as another reference frame.

7.3 STATE OF THE ART: INNOVATION STUDIES

Innovation studies literature uses classification and typology also interchangeably. Ever since Joseph Schumpeter conceptualised innovation as most important factor for economic growth, he distinguished between five types of innovation: new products, new methods of production, new sources of supply, new markets and new

organisation of a business (Fagerberg 2004). Afterwards, many different types of innovation have been described in the literature; however no systematic typology has been developed. Instead, many different distinguishing points, classifications and typologies can be found (Kotsemir et al. 2013), some of them stepping on the Schumpeterian understanding and further developing it, while others introducing new forms of innovation to the discussion. One difference results from the focus of studying: the focus on the innovation itself, innovation as an outcome (i.e. product, service, process innovation), or on the organizations that are developing innovations (i.e. processes of managing or fostering innovation) or typology of innovation activities (see O'Raghallaigh et al. 2010). The different terms and definitions of innovation also result from the different ways of categorising innovation, i.e. the dimensions chosen for building the types (e.g. diffusion, process dynamics, newness etc.) (Wolf 1994). The classifications of innovation found in the literature could be distinguished by being unidimensional, two-dimensional or multidimensional (Kotsemir et al. 2013). To summarise the lessons learnt from innovation studies regarding defining different types of innovation, this section gives an overview of some popular innovation types and groups them as follows:

(1) **Outcome:** Product vs. Service vs. Process innovation;
(2) **Degree of novelty:** Incremental vs. Radical vs. Architectural innovation;
(3) **Organisational innovation:**
    a. Top-down vs. Bottom-up innovation;
    b. Outside-in vs. Inside-out open innovation;
(4) **Object of innovation:**
    a. Sustainable innovation;
    b. Frugal innovation;
    c. Social Innovation
    d. Technological innovation

After recapitulating the main components of these groupings, the characteristics of the different types are summarized in a conclusion and a distinction between the types is made based on the innovations' purpose.

Outcome

As mentioned above, the discussion of what is an innovation and which different types of innovation exist can be attributed to Schumpeter (Tushman/Nelson 1990). By asking questions as where does the innovation lie, what is being renewed or destroyed and what is the degree of novelty, a distinction between different 'innovations' is made (e.g. new products, services or processes, being incremental or radical). First attempts of distinguishing between different types of innovation follow the Schumpeterian logic and are based on the application of innovation inside a firm to understand what can lead to economic growth and an increase in productivity (OECD 1997). In the first editions of the OECD Oslo Manual (1997), for example, the distinction is made between technological, product and process innovation (TPP).

Product innovation

"A product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics." (OECD 2005, p. 48)

Product innovation can be developed by using new materials, components or increasing the performance of products (examples are the introduction of microprocessors, video camera or MP3 player) or by changing the methods of a service provision, adding functionality to a service or introducing a new service (e.g. internet banking). Products and services are here described as tangible objects, provided by a certain firm, and are seen as an object of 'renewal'. This type of innovation is opposed to process innovation.

Process innovation

"A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software." (OECD 2005, p. 49)

There are some historical examples of process innovations that have influenced the society as a whole as for instance the introduction of the moving assembly line by Henry Ford. Another prominent example is the tracking of transport services through GPS tracking devices (ibid.). The main difference between product and process innovation as described by the Oslo Manual (OECD 2005) lies in the object of the innovation. While by product innovation the focus of 'renewal' is the product itself (with its characteristics or components), process innovation is focusing on the "methods, equipment and/or skills" used to produce a product or provide a service (ibid., p. 53). Therefore, product innovation can be understood as an innovation of an artefact, while process innovation is the innovation of how the artefacts are made and used.

As mentioned above, this first distinction between types of innovation is led by technological and business research. In the 1980s and even stronger in the 1990s, innovations in the service sector became an object of research as a separate type and added the notion of *service innovation* to the discussion (Miles 2006).

Service innovation

Service innovations are described in the literature as multidimensional – intangible, heterogeneous, requiring interaction with customers, characterized by the parallel process of production and consumption (Randhawa/Scerri 2015). Service innovation can therefore be seen as a product as well as a process. If for example a firm offers a new service but provides it in a familiar way, it is a 'product' type service innovation, while if the service stays the same but the process of provision is renewed, it is 'process' service innovation (ibid). In a way, service innovation is either a product or a process innovation in the service sector.

These three first types are focusing on the innovation as an outcome and the 'object' of renewal. Another distinguishing point between the types of innovation is the degree of novelty.

Degree of novelty

The long lasting innovation literature sets two degrees of novelty for innovations: completely new (radical) or moderately new (incremental) (Henderson/Clark 1990). Henderson and Clark (1990), however, see an insufficiency in this distinction and introduce additional levels of novelty lying between incremental and radical, namely architectural and modular innovation. The following sections discuss briefly the differences between these innovation types.

Radical innovation

"Radical innovation establishes a new dominant design and, hence, a new set of core design concepts embodied in components that are linked together in a new architecture" (Henderson/Clark 1990, p. 11). Implementing radical innovation requires a whole new direction of thinking. Historically, such innovations were for example the introduction of television or the personal computer, which represented a new technology, embodied in a new design. Their systemic impact on society and economy was also tremendous.

Incremental innovation

Incremental innovation, on the contrary, introduces relatively minor changes to the existing product, exploits the potential of the established design, and often reinforces the dominance of established firms (Henderson/Clark 1990). There is usually improvement in knowledge and materials, followed by the enhancement of products and services, giving a firm competitive advantage without changing the whole system. In this manner, there is a lower degree of risk for companies when introducing incremental innovations than to pursue a radical change.

Both radical and incremental innovation represent extreme points of novelty referring either to renewing the components of a product without changing the 'grant design' (incremental innovation) or a completely new architecture and design (radical innovation). There are arguments, however, for distinguishing between different types of 'non-radical' innovations that are not covered by the existing definition of incremental innovation, namely modular and architectural innovation.

Modular innovation

According to Henderson and Clark (1990), modular innovation can be understood as an innovation that does not change the architecture of an existing product, but introduces new components that add additional functionality to it. One example is the change from the analogue telephone to a digital one. Here, the innovation is the introduction of a new design, which keeps the general architecture of the initial product telephone (ibid., p. 12).

Architectural innovation

Architectural innovation is the opposite of a modular one: it changes the architecture of a product without changing the components. It is about "the reconfiguration of an established system to link together existing components in a new way" (Henderson/Clark 1990, p. 12). This definition does not exclude small changes in the components such as changing their size, but emphasize that the core design stays the same, while the main architecture is changed. An example is transforming a ceiling fan into a small portable fan – same component in a different size, organized in a new architecture (ibid.).

The four types offered by Henderson and Clark (1990) underline the different steps which can be taken to innovate. They are also referring to technological innovation and can be applied for product, as well as for service or process innovations as an object for renewal. This classical discussion leads further to the development of multilayer classifications of innovation which, by combining different dimensions of the innovation's outcome and process, aim to explain changes in the market, the essence of innovation (technology or business driven), the sphere of application of innovations and so on (Kotsemir et al. 2013). The increasing complexity in the understanding of the innovation term is also reflected in the OECD Manual (OECD 2005). In more recent editions, the OECD TPP classification is revised to include processes regarding the organisation of work and the presentation of a company and its products to the outside world. Marketing and organisational innovation are also included in the discussion as relevant aspects for the economic innovation process in firms (OECD 2005). This revision aims at shifting the focus from technological innovation only to other economically relevant parts of a companies' processes which also undergo innovation activities. In addition to the question *what* is being renewed, the question of *how* the innovation process happens brings new types of innovation into the discussion. This question is often studied as a dichotomic classification (Kotsemir et al. 2013), distinguishing between innovation types as *bottom-up* and *top-down* or *inside-out* and *outside-in* innovation.

Organisational innovation

Top-down and bottom-up are terms usually known from political studies (Lindberg 2011; Saari et al. 2015). When applied to studying innovation, they refer to processes, resources and the role of managers for fostering innovation inside companies (Totzauer 2014). These two approaches are supported and studied by two different theoretical streams: "Strategic Leadership" on the one hand and "Employee Driven Innovation" on the other.

Top-down innovation

This approach focuses on the importance of top-managers for creating innovation fostering environments, in which the success lies in a combination of personal characteristics and context factors as for instance freedom of acting and organizational structures (Totzauer 2014.). The focus lies on the innovative behaviour of managers which ranges from developing new ideas to implementing them. The renewal here can appear as a technological product or service as well as an administrative process. The role of managers can be summarised in three different activities: idea development, promotion of ideas and implementation of ideas (Totzauer 2014). The innovations' success depends very much on how managers are going to accomplish these roles.

Bottom-up innovation

The focus of the bottom-up approach is on resources enforced for fostering innovation. These can be tangible (e.g. financial or physical resources) as well as intangible (e.g. knowledge or reputation) (Totzauer 2014). The most important resource, however, are the employees themselves, who very often have more first-hand knowledge of which innovation can be successful. The assumption here is that managers do not always possess all the skills necessary, employees however can achieve innovation through teamwork and co-creation faster and more efficiently (Saari et al. 2015). The main difference to the top-down approach is in distinguishing who

has the most valuable resources for fostering innovation. In the bottom-up approach, these lie with the employees, who often may rely also on external networks for achieving knowledge, ideas and creativity, rather than relying only on the personal characteristics of the top-managers. The management role in the bottom-up approach, however, is not overlooked, but lies in supporting and organising the innovation process (Saari et al. 2015).

These two approaches describe the different ways for *managing innovation processes* inside an organisation. Another topic relates to approaches fostering innovation through reorganising the flows of knowledge and by opening up the organisation for sharing and/or acquiring knowledge from external parties. Such discussions in innovation studies open the way for concepts as *open innovation*.

The open innovation paradigm became wildly popular in the past decade. It assumes that useful knowledge for a company can come from external channels and that the internal research and development (R&D) units, as advanced as they can be, should make use of knowledge available outside a firm (Chesbrough 2005). This sets the biggest contrast to the top-down and bottom-up approaches where the discussion about knowledge and resources needed to enforce innovation focuses on different *actors inside* the organization (managers or employees). "Open Innovation processes [on a contrary] combine internal and external ideas into architectures and systems" (Chesbrough 2005, p. 4). The discussion here is on opening the own organisation for knowledge flows from and to the outside world. Special attention is usually paid to external knowledge coming from users, bringing up terms as 'user-driven innovation' or 'co-creation'.

The research on open innovation shows that it shortens innovation cycles and can lower the costs and risks by up to 60-90% than traditional innovation processes (Gassmann/Enkel 2006). A very prominent example of a successful open innovation in a big company is the IBMs' Solution Lab in Zurich, Switzerland, where more than 130 organizations from industry, research and the public sector work together on different projects (ibid., p. 5). There are two approaches identified to implement open innovation processes in an organization: outside-in and inside-out process.

Outside-in process of open innovation

This process describes approaches in which external knowledge from customers or partners is added to the internal knowledge of an organisation, through an active transfer of technology coming from other organizations (companies or universities) (Chesbrough 2005). In the past those types of innovation processes were believed to belong to SMEs, doing R&D work for bigger companies or other partners on the value chain; however today outside-in process of open innovation can be found in many big companies, too (e.g. DaimlerCrysler focused on becoming a broker for knowledge in 2004) (ibid., p. 10). This approach points out that today the place where knowledge may exist is not necessarily the same as the place where technology is developed (ibid.).

Inside-out process of open innovation

This approach shows that the place where innovation is created is not necessarily the place where it is implemented and used. The inside-out process supports the distribution of ideas and technologies faster than it is possible by closed, internal organizational procedures (Chesbrough 2005). The idea is to allow internal knowledge to leave the borders of the own company and to gain value from faster distribution and, possibly, development of new innovations through that knowledge being used by third parties. To some degree, it can also contribute to lower costs and risks for the own company since they are being shared with other companies (ibid.). The biggest outcome of this type of innovation process relates to the spill over effects of certain technologies to other industries (e.g. the internet was developed for the military and spread to private use).

Organizations are not forced to choose the one open innovation process or the other. Often, the process is coupled so that knowledge flows through the organization – in some cases it is created internally and diffused to third parties and in others it is acquired from external channels and further used internally (Chesbrough 2005).

The elaboration so far sketched the development of innovation studies throughout the past decades: the first TPP innovation types focused on the innovation as an outcome; in parallel other discussions about the degree of novelty where also led; soon enough it was clear that there are other components in the innovation process

that deserve attention as including new actors, reorganising resources or allowing knowledge flows. In addition, the discussion includes the understanding that the innovation term goes beyond technological innovation; that innovation is not restricted to companies and organisations, but can happen also in the civil society. Social value and degree of change are also factors considered in innovation concepts studied in different sectors. This gives a reason to study innovation from the perspective of the object of innovation. There are types of innovation encountered in the literature, which present a complex understanding of the term and do not belong to one particular innovation typology. They stand out with the fact that the object of the innovation is intangible. As an example for such terms *sustainable* and *frugal* innovation types are further elaborated.

Object of innovation

Sustainable innovation

"Sustainable innovation is a process where sustainability considerations (environmental, social, and financial) are integrated into company systems from idea generation through to research and development (R&D) and commercialization. This applies to products, services and technologies, as well as to new business and organizational models" (Boons et al. 2012, p. 3).

This definition provided by Boons et al. (2012) puts a bigger purpose to the term *innovation*, namely sustainable change. The authors recognize the need for a brighter understanding of innovation for the new challenges the world is facing: climate change, demographic change, pollution, scarcity of resources (water and raw materials, and in the changing economic competitiveness between countries (ibid.). In this environment, 'sustainable innovation', combined with new business models, is seen as a potential for competitive advantage and a solution for emerging challenges.

Leading feature of sustainable innovations, following Boons et al (2012), are for once context specifics, since this type of innovation is aiming at improving sustainable performance depending on ecological, economic and social criteria (ibid., p. 2). Therefore, it can have different meanings and forms in the different contexts where it is developed.

In addition, Charter et al. (2008) see sustainable innovation as going beyond product or process innovation and following future-oriented goals. Therefore, it is a radical type of innovation, aiming at systemic change (Boons et al. 2012). From the literature, it becomes apparent that sustainable innovation may include different types of technological innovation, however, subordinated to social, economic and ecological goals for long-term sustainable development. This puts it next to other types of innovation also aiming at overarching goals.

Frugal innovation

Frugal innovation is a relatively new term in the innovation discussion and is still evolving (Weyrauch/Herstatt 2016). Like sustainable innovation, this innovation type aims at a certain purpose beyond being a product, service or process, however it can take the form of either of them. One description of frugal innovation is given by the Fraunhofer ISI (2017) as an innovation aiming "to create 'more value for more people from less resources'" (Fraunhofer 2017, p. 2). Furthermore, the main goal of frugal innovation is to create solutions that are cheap but of good quality, mostly in the developing countries, however, ever more appearing also in Europe (ibid.). The Fraunhofer findings show, that there is a strong economic side to frugal innovation, which aim at securing affordability of products and services for users often "at the bottom of the pyramid" (ibid., p. 7).

Frugal innovation is not the only type of solution known to be aiming at 'affordability' as a challenge (e.g. Jugaad or Bricolage), making it ever more important to define criteria for distinguishing frugal innovation from other terms. The characteristics discussed in the literature mainly focus on special aspects such as technical novelty, market novelty, or the field of scarcity, however this still does not make it easier to distinguish what frugal innovation is and what the main aspects are of developing it. After analysing the existing literature, Weyrauch and Herstatt (2016) suggest three criteria that must be met, at the same time, in order to call a solution frugal innovation. These are: "substantial cost reduction, concentration on core functionalities, and optimized performance level" (Weyrauch/Herstatt, 2016, p. 2). As with sustainable innovation, the authors see the importance of context specifics, e.g. infrastructure, climate or cultural specifics of customers, by developing

frugal innovation which results in different solutions that may work on one market but are inapplicable for another (ibid.).

On the contrary to sustainable innovation, however, which is described to be about system change, frugal innovation is more incremental than radical. This can be seen in the way solutions are produced – "smart recombination of existing technologies for new purposes rather than the development of an entirely novel technology" (Fraunhofer 2017, p. 5).

Taking these understandings in consideration, one can see that both types go beyond technological innovation. In sustainable innovation 'the object of renewal' is the system as a whole, while frugal innovation is about the reconfiguration and the reuse of existing assets and components in an affordable way. Reflecting on these characteristics, one can define technological innovation (in the form of products or processes) as a type of innovation focusing on economic growth and productivity of a company; sustainable innovation – as a type focusing on sustainable change and frugal innovation as considering affordability. In this manner, Social Innovation is also an innovation type with a special object of innovation – Social Change by altering social practices. Since these innovation terms are so complex and multidimensional they can be further classified and divided into types of their own, as elaborated in the following sections.

- Product, process and service innovations come from the long lasting research on *technological innovation*. They can however be taken as attributes for any other innovation type. The same can be said also for *the degree of novelty:* incremental, radical, architectural or modular innovation**.**
- Another group of innovations can be identified under *organisational innovation:* top-down, bottom-up, outside-in and inside-out innovation refer to the process of fostering innovation by *knowledge organisation* and *allocation of resources* inside an organisation.
- Sustainable and frugal types are aiming at a certain level of change. Their main characteristic is not the innovative initiative on its own, but its *purpose and impact*.

Table 5: Lessons from innovation studies at a glance

This scan of innovation types shows that to develop one consistent typology of innovation is an impossible task. Today, we can define, group, and compare different *types* of innovations, however depending on the guiding question for this 'grouping', many different classifications and typologies are possible. Adding the fact that innovation can happen inside as well as outside a company, the necessity arises to further exacerbate the discussion on types of innovation happening in the wider society and stimulating processes of Social Change. How can the 'social component' in innovations be measured and described is a difficult question. There are several studies already focusing on the nature and characteristics of Social Innovation (see SI-DRIVE's Critical Literature Review, Howaldt et al. 2014). The following section reflects on Social Innovation and three approaches for distinguishing between different scopes of the social component in innovation.

7.4 STATE OF THE ART: SOCIAL INNOVATION RESEARCH

Social Innovation

As stated in the introduction, Social Innovation research to date has neither brought about one leading definition nor a guiding reference typology. Rather, attempts to set up a typology of Social Innovation can be traced back to other research projects on Social Innovation funded by the European Commission. Hence, this section will present and discuss the following typologies:

- The distinction made between the intention of social innovations laid out in the BEPA report (2010) - *Empowering people, driving change - Social Innovation in the European Union*
- Types of Social Innovation identified by the FP7 research project TEPSIE (2014)
- The actor-centred typology developed by the FP7 funded SIMPACT project (Rehfeld/Terstriep 2017)

In the following, each of the aforementioned typologies - as well as the conceptual understanding of Social Innovation in which they are embedded - will be briefly described. In a second step, the presented typologies will be briefly discussed to gain an over-arching overview of the state of the art. Thereby, the respective typologies will be presented in a chronological order.

BEPA's outcome- and process-oriented typology

In 2010, the Bureau of European Policy Advisers (BEPA) published a report called "Empowering people, driving change – Social Innovation in the European Union" in which it laid out a definition of Social Innovation. Here, Social Innovation is understood as first of all "Innovations that are social in both their ends and their means" (ibid., p. 42). However, this very basic understanding is complemented by a process dimension stating that social innovations comprise "new forms of organization and interactions to respond to social issues" (ibid., p. 43). The typology developed by BEPA distinguishes different Social Innovations along their outcome dimension. The different types of Social Innovation thereby follow three different approaches:

1. The first type comprises social innovations that address social demands which are so far not adequately addressed by the market or institutions. This type of Social Innovation especially targets its activities towards vulnerable groups of society, such as elderly or migrants.
2. The second type addresses society as a whole by tackling "societal challenges in which the boundary between 'social' and 'economic' blurs" (BEPA 2010, p. 43). In that sense, the 'social' is seen as an opportunity instead of a barrier towards value generation.
3. The third type of Social Innovation comprises approaches that address broader systemic change aiming at a transformation of "society in the direction of a more participative arena where empowerment and learning are sources and outcomes of well-being" (BEPA 2010, p.43). Since many of these approaches depend on the re-organisation of a variety of stakeholders, they are established at a higher political level.

However, these three types of Social Innovation should not be seen as clear-cut single entities, rather they are interdependent (see Figure 10 in chapter 3). Social Innovations with a focus on a specific social demands often simultaneously addresses a societal challenge, since the process dimension describes that Social Innovations find new forms of organization and interaction their implementation can be seen as a contribution to reshaping society.

These three dimensions shed light on what 'social' in Social Innovation is and what the purpose of Social Innovation is in general. Nevertheless, the distinction between three levels of scope: demand, challenge and systemic change is not exclusive for Social Innovation and have the potential to be used also for other innovation terms (e.g. sustainable innovation is more focused on challenges and system change while frugal innovation is demand driven).

TEPSIE's types of Social Innovation

Another typology of Social Innovation was developed by the FP7 research project TEPSIE. TEPSIE (2014) defines "Social Innovation as new approaches to addressing social needs. They are social in their means and in their ends. They engage and mobilise the beneficiaries and help to transform social relations by improving beneficiaries' access to power and resources" (ibid., p. 14). *New* thereby relates to the context of the Social Innovation. The social needs aspect of this definition comprises the initiator's intention. The mobilization of beneficiaries is regarded as a guarantee for local ownership which helps to meet this social need.

Since that definition refers to a variety of Social Innovation practices, TEPSIE developed an overview of different types of Social Innovation. Thereby the types are distinguished along their key activity. Yet, similar to BEPA's (2010) typology, the different types of Social Innovation identified by TEPSIE address different levels of intervention. Moreover, some social innovations might cut across the several types.

Type of Social Innovation	Description	Example

New services and products	New interventions or new programmes to meet social needs	Car-Sharing
New practices	New services which require new professional roles or relationships	Dispute resolution between citizens and the state in the Netherlands
New processes	Co-production of new services	Participatory budgeting
New rules and regulations	Creation of new laws or new entitlements	Laws enhancing non-smoker's rights in Germany

Table 6: TEPSIE's typology of Social Innovation (own figure based on TEPSIE 2014, p. 15)

Closely connected to this typology is an analysis of how these different activities of Social Innovation can spread or grow. Nevertheless, since every Social Innovation is very context-dependent these conceptualisations of growth only show that growth strategies have to be designed according to the innovation's context and with respect to the unit of analysis. In that sense the growth of new services and products can be a conceptualisation as a replication or adoption of them elsewhere or as scaling up and mainstreaming activities. New practices can be adopted, replicated, mainstreamed or grown as part of change processes. The spread of new processes is as well taking the routes of adoption, mainstreaming and change management broadened by the option of implementing them. In contrast, since the spread of new rules and regulations takes place on a policy-level, their spread depends solely on mechanisms of policy diffusion (TEPSIE 2014).

SIMPACT's actor-centred typology

The project SIMPACT (2014-2016) focussed on the economic aspects of social innovations in the sense of social innovations' impact on social and economic transformation (Rehfeld/ Terstriep 2017). In the project's context Social Innovation was, thus, defined as "novel combinations of ideas and distinct forms of collaboration that transcend established institutional contexts with the effect of empowering an (re)engaging vulnerable groups either in the process of Social Innovation or as a result of it" (Terstriep et. al. 2016, p.6). SIMPACT approach to developing a typology has to be seen in its middle-range-theorising approach. Thus, SIMPACT does not address Social Change per se but looks at "institutional and related political change" in specific (Rehfeld/Terstriep 2017, p. 4),

SIMPACT based its typology on a variety of existing case studies with a focus on business case studies and additional Social Innovation biographies. Thereby, it became apparent that social innovations take place in a diverse social setting being steered by a set of different actors engaging in different organisational settings and equipped with differing ways of financing their activities.

The different types of Social Innovation are structured along the actor's societal level in focus (micro, meso, macro) on the one hand, and along their focus on either economic or social objectives, on the other hand (table 7).

The first column describes actors with a focus on the micro-level. Actors with a focus on economic objectives at the micro-level comprise traditional companies that implement e.g. corporate social responsibility (CSR) strategies or employ workplace innovations. Yet, their main focus remains an economic one. The middle group of actors on the micro level, combining economic and social objectives, entail for example charities, social enterprises or cooperatives. In contrast, the last group bundles a broad range of hybrid business models with an outspoken focus on social objectives.

The second column presents actors that focus on the meso level. The ones with clear economic objectives are e.g. business associations or lobbyists while those with balanced economic and social objectives comprise foundations with a specific focus or policy. Yet, those purely pursuing social objectives are investing in networks in the form of forums or community building.

The third column describes actors with a focus on the macro-level of which the ones focussing on economic goals are e.g. think tanks or international organisations like OECD or International Monetary Fund. The ones

pursuing both economic and social objectives are mainly business organisations, whereas actors at the macro level that have primarily social objectives in mind are mainly international NGOs.

	ACTORS WITH FOCUS ON THE MICRO-LEVEL (SINGLE IMPACT)	ACTORS WITH FOCUS ON THE MESO-LEVEL (INSTITUTIONAL CHANGE)	ACTORS WITH FOCUS ON THE MACRO-LEVEL (SOCIAL CHANGE)
FOCUS ON ECONOMIC OBJECTIVES	- Selective use of specific competences - CSR - Workplace Innovation	- Business Associations - Lobbyists - Regulative Boards	- Think Tanks - OECD - IMF
BALANCED ECONOMIC & SOCIAL OBJECTIVES	- Social enterprises - Charities - Mutuals - Associations - Cooperatives	- Associations - Foundations with a specific focus - Policy	- Business Organisations -ZEWO – Central Office for Charitable Organisations
FOCUS ON SOCIAL OBJECTIVES	- Broad range of diverse actors with hybrid business models	- Platforms - Fora - Imitation - Community building	- World Social Forum - NGOS

Table 7: SIMPACT's actor-centred typology (own figure based on Rehfeld/Terstriep 2017, p.10)

These different societal levels are seen as a contribution to change processes on the different level. While actors with a focus on the micro-level are unlikely to initiate change processes that go beyond having a local or single impact, actors with a focus on the meso-level aim for changing the institutional landscape and actors with a focus on the macro-level even attempt to bring about broader Social Change (Rehfeld/Terstriep 2017). Nevertheless, similar to the other two typologies, the different types of Social Innovation presented here do not represent independent entities. Rather by scaling up and out, social innovations with a single impact bridge their activities to the meso level, organised in multiple networks and forums (ibid).

Conclusion: typologies in SI research

The above presented typologies share the observation that social innovations take place at different societal levels. For example, BEPA's (2010) differentiation along the outcome dimension determines if social innovations focus on the micro, meso, or macro level. Similarly, TEPSIE's (2014) distinction between different Social Innovation activities implies distinct foci of the levels addressed. While new services and products usually tackle a social demand on the micro-level, new rules and regulations are implemented at a meso or macro level. Obviously, one of the axes of SIMPACT's (Rehfeld/Terstriep 2017) typology assigns social innovations directly to a societal level and correlates this with either economic or social objectives. This highlights the general observation that Social Innovation relates to processes of Social Change taking place on different levels - acting in a continuum from economic and market oriented solutions up to explicitly social value related activities. Hence, Social Innovation activities are adapted to the level approached and make use of different growth strategies in order to spread the activity in question (TEPSIE 2014, Rehfeld/Terstriep 2017).

SI-DRIVE builds on many of the insights provided by other classifications and ideal types of Social Innovation. In this sense, the key dimension objectives also follows the assumption that social innovations either address social demands, societal challenges or aim for Social Change. The global mapping addressed these and other variables identified by afore-presented typologies, as well. For examples, the Comparative Analysis (Howaldt et al. 2016) analysed which level social innovations address and found that many innovations do not focus their activities on one but several levels (see Figure 10, chapter 3.5).

While supporting BEPA's (2010) observations, the global mapping presents the limits of this distinction, highlighting the ideal type character. Hence, SI-DRIVE's vast database offers the opportunity of first classifying social innovations and then to develop ideal types on basis of the empirically-led classifications. As the Comparative Analysis as well as the in-depth case studies reveal, social innovations also take a variety of different forms, containing different degrees of novelty. The typology approaches thus build upon the (social) innovation types identified in literature but tailor them to the SI-DRIVE's empirical findings.

Summary

Reflecting on the previous work in innovation studies and particularly in Social Innovation theory, the described types of innovation so far can be summarised and grouped as follows:

- **Technological innovations** can take various forms and have different degree of novelty. Their main (overarching) purpose is to secure economic growth and productivity. Therefore, it can generally be classified as a broad type of innovation, which can be subjected to further classification. In addition, Social Change may occur as an outcome from these innovations (e.g. assembly line), even though it is not the main purpose of the innovation. In any other type of innovation technological solutions can also support reaching the desired goal;

- **Organisational innovations** are mostly process oriented ones, meaning that top-down, bottom-up, outside-in and inside-out innovations refer to the process of fostering innovation inside an organisation. They can have different degrees of novelty, however radical and system change is hardly part of their scope.

- Innovations grouped under **'object of innovation'** can also take various forms, but they differ mostly in the degree of change they are aiming at. While Social Innovation can aim at small, middle or ultimate degree of change, sustainable innovation is much more oriented to wider change (radical, systemic change) and frugal innovation on the contrary is very context specific and demand oriented one and therefore more incremental than radical.

- As **social innovations** are characterised by a great variety of implementations, subject to constant change, they could be placed anywhere on a continuum of the described types, depending on the objectives, resources, actors and dynamics of the initiatives. To be clear, an innovation planned as an answer to a social need can end up as a market player with a strong profit orientation (e.g. Uber, Airbnb).

Table 8: Grouping of innovation types at a glance

7.5 SI-DRIVE TYPOLOGIES

The SI-DRIVE typology of Social Innovation has to build upon the key dimensions of Social Innovation which were developed in chapter 9 of the Critical Literature Review, used to structure the empirical results of Mapping 1 discussed in the Comparative Analysis and put to a final test at the in-depth case studies presented in the Compiling Report. Both empirical phases assigned the investigated social innovation initiatives to the seven policy fields (Education and Lifelong Learning, Employment, Environment and Climate Change, Energy Supply, Transport and Mobility, Health and Social Care, and Poverty Reduction and Sustainable Development). Hence, the typology approaches presented in this section developed subsequently also build upon the policy field dimension while at the same time going beyond it.

The ultimate requirements for a SI-DRIVE typology of Social Innovation stem from the project's definition of Social Innovation as "…as a new combination or figuration of practices in areas of social action, prompted by certain actors or constellations of actors with the goal of better coping with needs and problems than is possible by use of existing practices. An innovation is therefore social to the extent that it varies social action, and is socially accepted and diffused in society (be it throughout society, larger parts, or only in certain societal sub-areas affected)" (Butzin et al. 2014b, p. 151-152).

On the basis of this working definition, SI-DRIVE identified five key dimensions of Social Innovation (see Figure 3 in chapter 2). The key dimensions guided SI-DRIVE's empirical work aimed at understanding "the potential of Social Innovations, their scope, and their impact" (Butzin et al 2014b, p. 159). Thereby it aimed to grasp the relationship between Social Innovation and Social Change. Hence, the different typology approaches developed in SI-DRIVE also relate different Social Innovation types to processes of Social Change. Although the aspect of Social Change is primarily embedded in the key dimension *Process Dynamics*, the compilation of mechanisms of Social Change (see Howaldt/Schwarz 2016), which were subsequently used as analytical lenses in Mapping 2, span across the other key dimensions as well. The analysis of mechanisms of change in Mapping 2 (see SI-DRIVE deliverables D4.3 – 10.3) highlighted which of the five key dimensions contributed in what kind of way to changes in the respective practice and policy field.

In this context, the mapping reveals the capacities of social innovations to modify or even re-direct Social Change and to empower people – i.e. to address a wide variety of stakeholder groups, as well as the broader public, in order to improve social cohesion and to allow for smart, sustainable and inclusive growth. The mapping shed light on the great many, often nameless but still important, social innovations responding to specific and every-day social demands or incremental innovations. The distinction between three different output levels is taken up by the SI-DRIVE project, but also has to be modified to some extent. There is a strong relationship between social demands, unmet social needs societal challenges and transformative Social Change in different policy fields and approaches.

However, as stated above, these initiatives and projects are diverse and complex in their aims and effects. Like any innovation, social innovations too, regardless of their protagonists' intentions, are in principle ambivalent in their effects, and new social practices are not per se automatically the "right" response to the major social challenges and the normative points of reference and goals associated with social transformation processes. With their orientation to the solution of social and ecological problems that cannot be sufficiently dealt with via traditional forms of economic and government activity, many social innovations - to a certain extent - carry out repair functions without fundamentally changing the prevailing practices and associated institutional structure. Moreover, many projects and initiatives do not develop the hoped-for impact on society, instead often are remaining limited to the local, experimental level (see Howaldt et al. 2016a, p. 153). Other initiatives adopt a wider perspective, and orientate their actions towards the major social challenges and the establishment of related new forms of cooperation between different actors and across sectors, combined with a redefinition of the relationship between social and economic value. They generally aim to modernise existing structures (see Zapf 1997). Only a few initiatives have an explicitly transformative aim in the sense that they want to contribute to a fundamental change in practice formation and the institutional structure of society (Howaldt et al. 2016a, pp. 42; BEPA 2010, pp. 26) Given this, and the fact that the long-term impacts on existing practices and institutions have hardly been examined so far, the question of the relationship between social innovations and transformative change has now also become a key question for Social Innovation research (Howaldt et al. 2015; Nicholls et al. 2015; McGowan/Westley 2015). Yet, looking at the Social Innovation typologies presented, it becomes apparent that they assume processes of Social Change to take place when initiatives focus their activities on the macro level.

Since SI-DRIVE is looking at the relationship between Social Innovation and Social Change, the ultimate pre-requisite for a SI-DRIVE typology of Social Innovation is to classify the different types of Social Innovation in relation to their approach to Social Change. Based on the conceptual framework (definition of Social Innovation, key dimensions, mechanisms of Social Change), the different contexts (regional-cultural, political, national, policy fields), as well as the empirical results of Mapping 1 and 2, different pre-typology classifications and three distinct typology approaches emerged.

Pre-typology classifications

In the following *pre-typology classifications* approaches for grouping SI-DRIVE's social innovations are presented, that represent different ways of grouping the empirical data. Since they are not based on ideal types, but on classifying cases based on certain rules, they are understood as classifications. Due to their potential by further analysis to explore the connection between Social Innovation and Social Change, they can be considered pre-typological, i.e. it is possible to develop typologies based on these grouping approaches. In that, the typology approaches to a certain extent build upon the classifications in constructing ideal types.

Practice fields

The initial basis for further typologies or better a first classification approach itself is the definition of practices fields as a meso level combining similar initiatives (micro level) under a common topic and related to specific policy fields (macro level). Looking at the social innovations' context and content, SI-DRIVE has assigned the single initiatives to the seven policy fields and grouped similar initiatives in practice fields. All in all, about 90 practice fields have been defined on the basis of the theoretical frame and the Social Innovation definition of SI-DRIVE (see Figure 26), with the main practice fields representing two third of the mapped 1,005 cases. To classify the different initiatives, the practice field mainly looked at the outcome variable. In that sense, initiatives that e.g. developed similar products or initiated similar processes were grouped in the same practice field. The defined practice fields are preliminary and have to be seen as a basis for further development, especially concerning a higher redundancy and better distinction from each other. This clarification and improved classification has to consider also the cross-policy field relevance of a significant number of practice fields (see Figure 7 chapter 3).

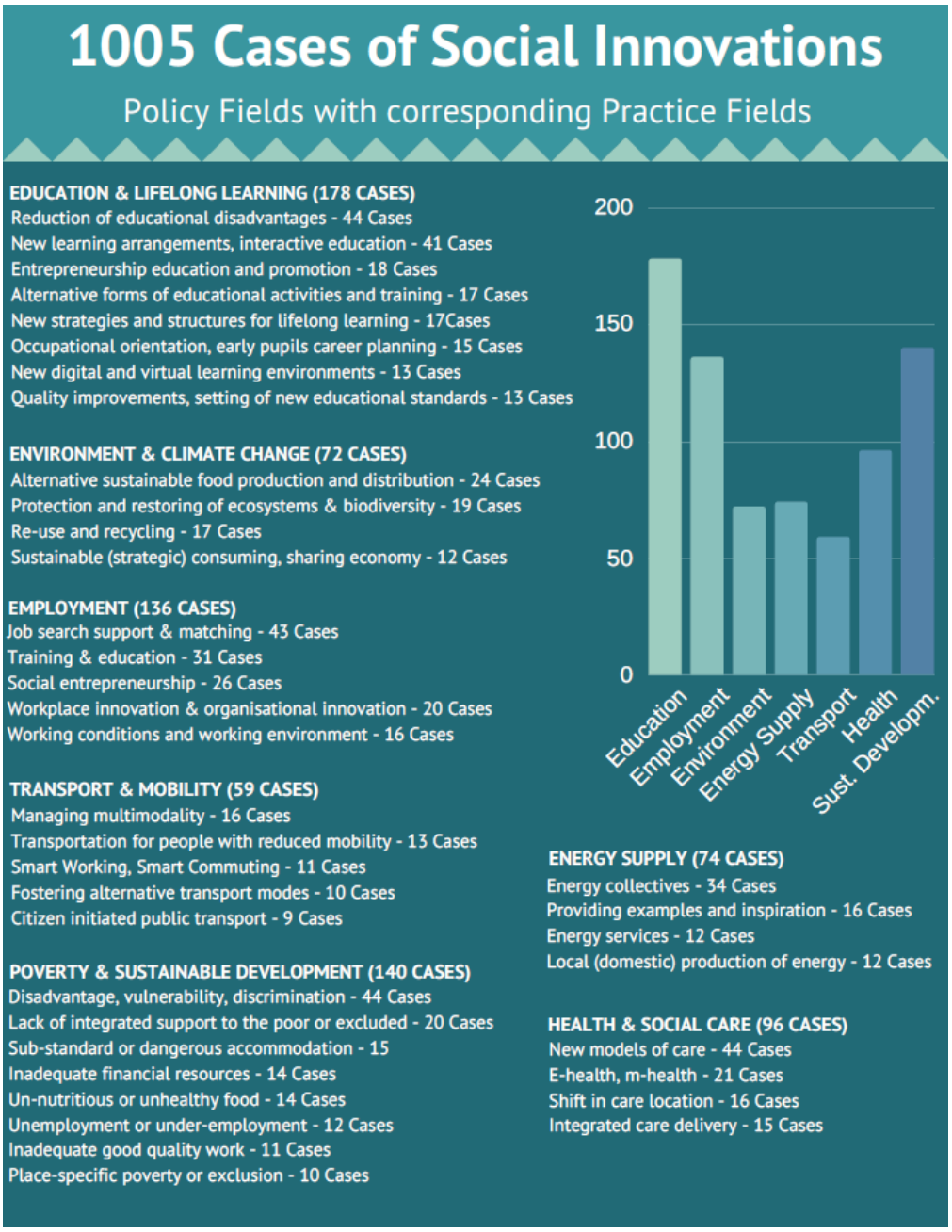

Figure 26: 1.005 cases of social Innovations were assigned to seven Policy Fields and grouped in corresponding Practice Fields

Cross-sectoral dynamic

Another way to classify Social Innovation is to look at the sector in which they are embedded and if this relation might change over time due to the innovation's growth and spread. The mapping assigned the social innovations to the sectors public, private and civil society. While actors of all three might have a crucial role in the initiative, most of the times only one can be considered the ultimate responsible actor. Hence, social innovation initiatives could move from the sector they initially were implemented to other sectors during the innovation process. The analyses of the 82 in-depth case studies shows that the minority of initiatives are staying within the sector they originally were implemented. Most of the initiatives show a sector-crosscutting development, and a remarkable number is moving from civil society to the public sector - which might be an indicator that they became an institutionalized social practice. With further analysis it is possible to define scenarios (i.e. paths) for moving from one sector to another, or staying in the same. Taking into consideration that other dimensions, beside the sector,

also play an important role for the process dynamics in Social Innovation, a complex approach for a typology based on process dynamics is presented below.

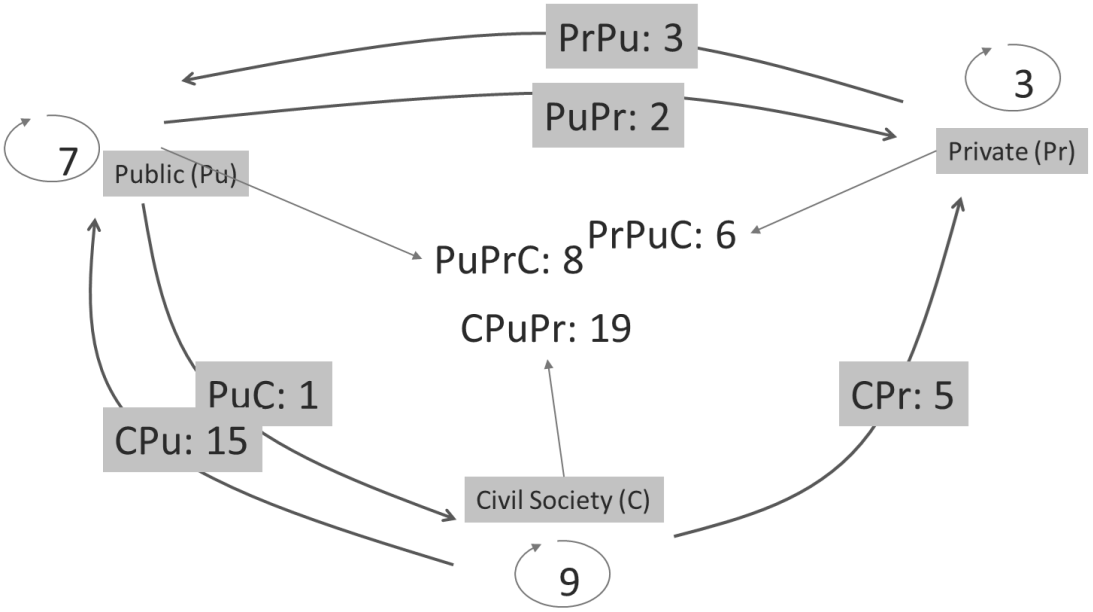

Figure 27: Sectoral embeddedness of 82 social innovations (in-depth case studies) and their changing embeddedness over time

Innovation stage

Next to this distinction, it makes sense to look at the development stage in which the different cases are currently positioned. To do so we looked at the in-depth case studies. Yet, the initiatives for the in-depth case studies were chosen because of their level of maturity. The reasoning behind this selection was that cases that already had reached a certain level of maturity were able to provide insights into processes of scaling and the impact Social Innovation can have on different levels and sectors.

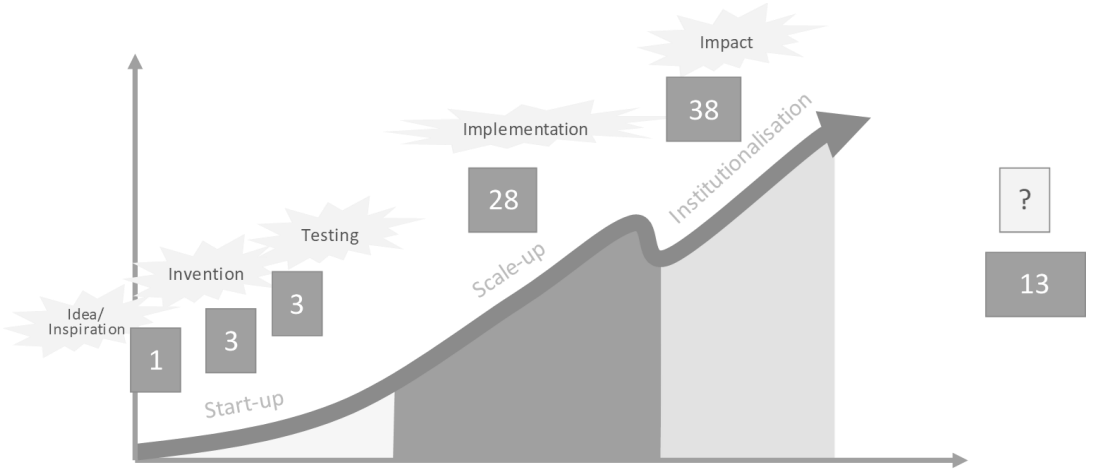

Figure 28: Scaling phases of 82 social innovations (in-depth case studies)

The in-depth case studies show that most of the cases are in their impact phase (38); 28 cases are in the implementation phase; 3 in the testing phase; three in the invention phase and one in the ideation phase. This distinction helps to clarify that the 82 cases should not be treated as a homogeneous group, but a distinction and further analysis in the different stages is also relevant. For example, while a typology of Social Innovation in relation to Social Change should be able to conceptualize how processes of Social Change are initiated and

on which level, this classification only implies that successful Social Innovation have an impact which can bring about Social Change or not; it, thus, leaves open what this impact looks like.

Actor constellation
Taking the actors and networks dimension from the SI-DRIVE framework as leading key orientation, by focussing on the organisational form of social innovations, it could be differentiated between:

- **Enterprise:** e.g. social businesses
- **Interprise:** innovations are internal to an organisation
- **Exterprise:** innovation functions are within the organization, however, contributions necessary to innovate come from outside and can be considered as an external hub.

Against this background, a matrix for different models could be developed, combining different business models and addressed needs.

Conclusion

The variety of variables chosen for the pre-typology classification implies that SI-DRIVE's data provides many points of connection for building a typology. Considering the dimensions used for the classification approaches and adding further dimensions it is possible to develop multi-dimensional typology approaches to Social Innovation. Depending on the guiding question these could focus, for example, on 1) the reach of a given Social Innovation (local – global); 2) whether a Social Innovation is self-contained or embedded into the system; 3) whether the Social Innovation is self-sustaining or dependent on other actors; 4) the process dynamics – whether the Social Innovation has been initiated bottom-up or top-down; 5) the actor constellation and how the innovation is organised; 6) is it science-driven or society-driven or 7) how deep is the Social Innovation anchored within its social context?

In following section three main typological approaches worked out from the SI-DRIVE theory considerations and empirical data are elaborated.

SI-DRIVE approaches to typology of Social Innovation

This section presents the typology approaches developed upon on the basis of the data and pre-typology classifications introduced before. As well as the innovation types presented in the first part of this chapter, these approaches take different attributes of innovation to create their ideal type. Thereby the first approach focuses on the initiative's level looking at their stability in the sense of being supported by formal policy structures. The second approach focusses on the process dynamics taking the practice fields as a starting point. In contrast to the first two typological considerations, the third approach attempts to build a more generalized typology of Social Innovation. It thereby differs from the Social Innovation types presented in the first part by relating Social Change to a specific system instead of only regarding it as embedded in the macro level. Thereby, it makes use of the policy field distinction. To initiate change processes an initiative thus is seen as being embedded in a (policy) system with which it can interact in various ways.

Stability of Social Innovation
The second typology approach looks at the case biography development trajectories, found by both the Education and the Poverty Reduction policy fields. Thereby three models can be revealed:

1. **Continuous growth model:** this is typically related to relatively large stable government and/or other funding within a conducive policy structure and where the case objectives overall are meeting their intended outcomes. Referring to the above discussion on the structural mechanisms, the cases where more or less continuous growth occurs tend to be those experiencing active interventionist support by policymakers and institutions, where this available over at least the medium term and/or where the structures within which the Social Innovation operates already enable the innovation or are deliberately changed to do so.
2. **Step-by-step or stage model:** this is typically characterised by two to three main stages separated by slower or no growth, or sometimes even by short-lived retrenchment. This tends to be due to financial,

political or other serious problems, albeit short-lived, where there is little or no direct interventionist support from policy structures at least during the slow-down, but where the case objectives overall are meeting their intended outcomes. Referring to the above discussion on the structural mechanisms, the cases where a step-by-step or stage model can be recognised tend to be those experiencing a generally permissive and enabling environment from policymakers and institutions, whether this is intentional or not. However, the fact that active policy or institutional interventions are not available or only take place piecemeal means that such social innovations are mainly left to fend for themselves, so that significant new risks or barriers when they arise need effort to overcome.

3. **Up and down, wavelike, alternating success and failure**: this is mainly due to very fast changing dynamic contexts directly affecting the social innovation and which the social innovation is attempting to address. In these cases the policy structures may be neutral or benign but normally are not hostile at least over the longer term, and where the case objectives overall are meeting their intended outcomes. Referring to the above discussion on the structural mechanisms, the cases where a wave-like model can be recognised tend to be those experiencing a generally permissive and enabling policy and institutional environment, whether this is intentional or not. However, the wider environment is relatively fast changing and disruptive, for example through significant economic, technological or demographic events and movements. The fact that these social innovations survive and continue over at least the medium term, although some do not of course, reflects their ability successfully to manoeuvre and negotiate such dynamic changes.

These three basic models can also directly contribute to what can be termed a 'formal-structural' typology of Social Innovation and that can be summarised as:

1. **Highly formal-structural type:** typically quite stable, robust and relatively top-down, closed and embedded in policy and regulation, relatively efficient and can be effective, often characterised by incremental innovation. The main example of the policy field Poverty Reduction and Sustainable Development (PRSD) is the income support practice field.
2. **Semi-formal structural type:** mixing both top-down and bottom-up, typically quite stable at the macro level but less so at the micro level, both relatively open and closed, generally robust, relatively effective and can be efficient, often characterised by a mix of incremental and disruptive/radical innovations. The main PRSD example is the community capacity building practice field.
3. **Weakly formal-structural type:** less structured, bottom-up and small scale, typically quite unstable due to fast changing conditions, more subject to tensions and is shock sensitive, relatively open, can be both relatively effective and efficient but also the reverse, often characterised by both disruptive (if not radical) innovation and 'innovation on the go'. The main PRSD example is the displacement, refugees and good governance practice field.

Process dynamics

This typology builds on three dimensions:

- Relation to policy
- Mode of interaction (being embedded in the social field of policy, business or civil society)
- Dynamic (including the social context)

The starting points of this approach are the practice fields of a policy field which display a great level of variation. Since this typology has been explained in more depth in the previous chapter "process dynamics", the nine ideal types of this approach are summarized in the table below:

Dynamic/Dominating social field	Economy/Market	Civil Society	Politics
Fragmented/Niche	Company based	Niche	experimental
Fragmented but partially framed	Social enterprises	Autonomy	embedded
Societal/Global	Challenging/disruptive	Organised civil society	Top down

Table 9: Process dynamics typology – Matrix of types

Social Change through system innovation

As shown in the pre-typology classification "innovative nature", the SI-DRIVE results reveal that the initiatives' overarching regional, national, political and cultural context have to be taken into consideration. This background finds it replication in a condensed formal system (Education, Health, Transport, Energy, Employment, Environment systems), characterising the range and possibilities of social innovations to develop, scale, diffuse and institutionalise, and in the end to impact Social Change. Looking at the empirical results (especially of the in-depth case studies), it becomes apparent that there are four different ways in which social innovations interact with the system it is operating in and using it as a lever for Social Change (see Figure 29):

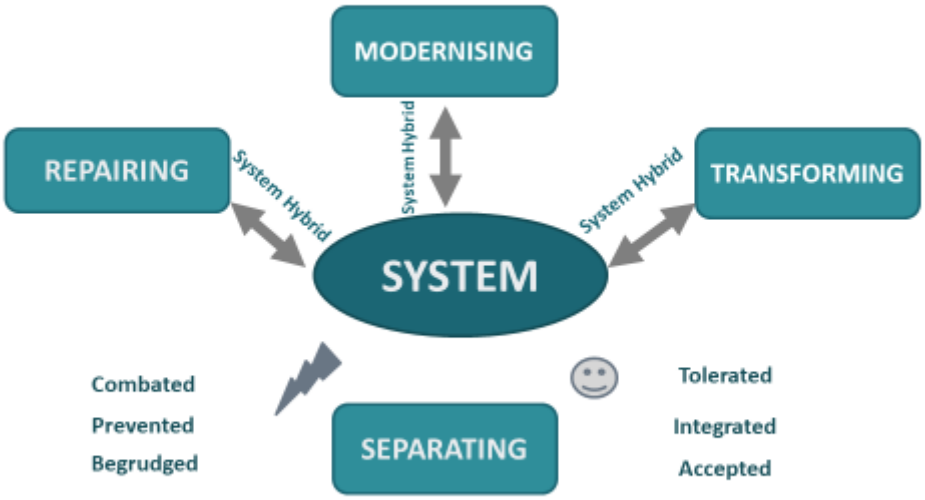

Figure 29: Social Change through system innovation

This typology comprises the four ideal types "repairing", "modernising", "transforming" and "separating", which can take different forms (green). It sees Social Change as being an interplay between the social innovation and the formal condensed system with its institutions, formal actors and routinized practices at hand. Thus, to grasp Social Change, it is important to look at the system's reaction when dealing with a social innovation or a new social practice. In the first type, social innovations transform the system radically while in the second they modernize it leaving the system's core identity untouched. The third type of social innovations does not question the system as such but repairs single subunits. These first three types of social innovations act within or outside the system either transforming, modernising, or repairing it internally or externally. Another approach to do so is by forming a system hybrid which can be initiated from outside into the system or be initiated by the system but institutionalised outside of it. The fourth type of Social Innovation acts separate from the system either in the form of peaceful co-existence, i.e. the Social innovation is tolerated or even accepted or integrated (becoming part of the system and forming a system hybrid). The other stream of separating social innovations is antagonising the system at hand, being combatted by the system, prevented from the beginning or begrudged. However, the potential shift from formerly separated social innovations to system hybrids shows that social innovations are by no means stable, but dynamic, in principle changing their character and type during the innovation process, based on the acceptance, activities and attitude of the relevant system players. In that sense, different actors of the system or taking part in the social innovation at hand might influence the relationship between a social innovation and the system. This can lead to path dependencies. For example, in a system that is coined by strict regulations which do not allow any other practices to enter a social innovation will remain separated from it.

Transforming the system through Social Innovation is often a kind of hidden agenda in the initiatives but not seen as realistic or actively done. However, there are some examples like *Uber* or *Airbnb* but also micro-financing and car sharing which affect the existing system with significant market impact. To transform a system a certain critical mass has to be reached, the practice field should have led to a lot of imitation, and imitation streams should led to new social practice on a macro level, leading to Social Change.

Example: Agrosolidarity has innovated in community capacity building strategies, with direct participation from rural agriculture families. The organizational structure is built on concentric circles formed by families, associative groups organized by product, process or services, mutualist associative figures, sectionals organized by micro-regions, regional Federations, and finally the Agrosolidarity national Confederation

Modernising the system is looking at the existing structures and is intending to improve the system. This type includes the improvement and supplement, for instance, of the health, education and employment system via digital solutions: e.g. distant telemedicine like *Smart Elderly Care* (China) or *Care* (Russia) allow for the efficient and effective provision of home care for the elderly by providing a service by which older people can use a digital service to contact medical professionals in the event of a medical emergency or when they need medical information. Also setting up new overarching structures for lifelong learning (*HESSENCAMPUS*, Germany) across adult and vocational schools, training institutions and different public responsibilities to manage existing institutions from a learner's perspective is a good example modernising the existing education system across separated responsibilities. *Agrosolidarity* (Colombia) is an example how the agriculture sector could be modernised by a confederation that brings together the main solidarity economic communities of Colombia, working on agro-alimentary, handicrafts, and sustainable tourism activities. Concerning environmental and energy, there are also a lot of cases that modernise the existing system with cross-sectoral and cross-responsibility solutions: like *dynaklim* (regional network and roadmap to empower the region and its actors to improve climate change adaptation, Germany) or new energy collectives (like *Solar Community Bologna*, Italy) and local energy production (like *Solar Powered Irrigation System*; Egypt).

Repairing the system is the mainly represented type in the SI-DRIVE mapping, often done by grassroots initiatives and focusing on specific system gaps or failures and vulnerable groups. For instance, in the education sector there are several groups which are falling out of the system and civil actors take care about them: *Lernhaus* (Austria) is offering education measures for adult migrants as compulsory schooling is not formally responsible. Other activities are focused on measures for structurally disadvantaged children (with a migrant background) like *Tausche Bildung für Wohnen* in Germany. *Abuelas Cuentacuentos* (Storytelling Grandmothers) is an example from Argentina, fostering insufficient reading abilities of boys and girls with the help of senior citizen volunteers (grandmothers), in a programme that has expanded inter-generational dialogue and gives a leading role to elder people. In the policy field of Employment, *Mama Works* (Russia) is supporting young mothers in improving their labour market competencies through training, job search and even creating their own work. *LIFETool* (Austria) demonstrates the use of computer based technology to support people with physical or mental disabilities, particularly ones which make speech difficult.

Example: SSI, Integrated Social Services, is an initiative founded by about 300 women, working irregularly (without a labour contract or social security). The cooperative creates self-employment opportunities to provide social services to elderly people at their homes: a high quality service for elderly people that rather continue living at their homes and at the same time a stable and prestigious job for the women. The initiative helped the women to get out of the informal economy into a more formal and legal part of the labour market.

System separating initiatives are e.g. Repair Cafes, as for instance the Repair and Service Centre (*RUSZ*) in Austria, are setting up an own separate service and market element (in peaceful co-existence to the big electronic trade companies). *SSI* (Integrated Social Services) is a cooperative for creating new services as self-employment opportunities and to overcome precarious, not system conform conditions to formal (self-)employment structures. Also the well-established *Friluftsfrämjandet* (Outdoor Association, Sweden) shows an alternative education draft by organising a wide array of outdoor activities based on local clubs for local communities and with the purpose to learn about nature by doing things together across age, religion, political opinion, etc. *She Taxi* (India) is offering safe travel options for women due to apparent attacks on women in public and other means of transportation. Antagonistic examples could be found in political movements like *Anonymous* and the *Arab Spring*, but also in extreme types of self-supplies in energy und nutrition (dropout cooperatives like rural

communes) and are based on antagonistic lifestyles to the mainstream. The shared economy might also be seen as an example, setting up an antagonistic model of consuming.

Because of the high process dynamics and the different development stages it is evident that the same social innovation initiative might be related to different types in the course of its development, but the typology will help to define their relation to the existing system and the strategy based on the chosen clarification.

7.6 CONCLUSION

This chapter has shown that while a multitude of innovation typologies with different foci exist, typologies especially focussing on Social Innovation and identifying ideal types remain a niche undertaking. Moreover, existing Social Innovation typologies so far do not pay special attention to the relationship between Social Innovation and processes of Social Change. Based on this observation, the chapter set out to present pre-typologies, such as the practice field approach developed during the course of the SI-DRIVE project, and took those as a basis for envisioning building bricks of a typology.

These first contours of a typology have been developed with regard to the theoretical framework (esp. the definition of Social Innovation and SI-DRIVE's key dimensions) and in line with the broad range of social innovations discovered from the global mapping.

In sum, there are different approaches of typologies of social innovations appearing:

(a) With regard to existing (innovation) typologies, modifying or complementing them. For example, social entrepreneurship can be seen as a special kind of business innovation.
(b) With regard to different central issues (system relevance, static or dynamic in regard to the development stage of the social innovation initiative, leading to Social Change, actor constellation, etc.). The three typological approaches all take one central issue and derive their ideal types in relation to it.
(c) Based on existing classifications, which could be further developed in the direction of a typology. For example, the practice fields classified within the global mapping provide the basis for a more elaborated typology.

From the SI-DRIVE research three approaches for a distinct typology appear:

1. Social Change through system innovation, setting the initiatives in relation to the formal systems of a policy field
2. Stability, development trajectories, focussing on the progress and the structure of social innovations
3. Process dynamic, looking at the mode of dynamics and interaction between politics, market and civil society

However, all these distinctions have to be seen as first approaches to develop typologies of Social Innovations; they have to be elaborated in further theoretical analyses and research, underlined by empirical evidence and policy strategies.

8 SOCIAL INNOVATION AND SOCIAL CHANGE

Jürgen Howaldt (TUDO)

8.1 INTRODUCTION

In this final report the key dimension for a better understanding of Social Innovation were discussed. Based on the theoretical and empirical research, building blocks for a general theory of Social Innovation were delivered. Using the inputs of the theoretical and empirical work of the project, this report provides a comprehensive architecture for understanding and discussing Social Innovation concepts, processes and impact. The framework is novel in its explicit consideration of the complexity of Social Innovation and its embeddedness in the related social and cultural context.

The theoretical framework is characterised by *seven central building blocks*, which have been developed step by step in the course of the theoretical and empirical work of the project:

1. A **comprehensive definition of Social Innovation** that is focusing on "new social practices" and allowing us to integrate the manifold meanings of Social Innovation under a shared umbrella definition that is based on and leading to a common concept and framework (Chapter 2).
2. The operationalization of the definition of Social Innovation via **five key dimensions**: Concepts and understanding; addressed societal needs and demands; actors and networks; resources, constraints and capabilities; process dynamics. The pentagram summarises the key dimensions which fundamentally affect the potential of social innovations, their scope, and their impact. (Chapter 2)
3. The **embeddedness of social innovations in institutional settings** and the **discrimination between different levels** of action and their interrelation: the macro-level of policy fields, the meso-level of "practice fields" and the micro level of related "projects/initiatives" (Chapter 6).
4. The analysis of the **various roles of a wide range of actors** which fluctuate across different levels and the across the lifecycle of an individual innovation (Chapter 5), as well as the **role of policy** as an important barrier or enabler for Social Innovation (see Dhondt et al. 2017).
5. The crucial role of **empowerment and human resources** for the development and diffusion of social innovations. Like technological innovations, successful social innovations are based on many presuppositions and require appropriate infrastructures and resources. Moreover, *social innovations* depend on *specific conditions* as they aim at activating, fostering, and utilizing the *innovation potential of the whole society* (Chapter 4).
6. The **importance of complex and dynamic ecosystems** which include a continuously negotiated relationship between "the new" and "the existing". This comprises *a new role for public policy and government in creating suitable framework and support structures*, the integration of resources of economy and civil society, as well as supporting measures by science and universities (e.g. education for Social Innovation performance, know-how transfer) (Chapter 5)
7. The **mechanisms of Social Change**: learning, variation, selection, conflict, competition, cooperation, tension and adaption, diffusion, planning and institutionalisation of change (Chapter 3).

This common concept and framework gives us the opportunity to understand the complexity and embeddedness of Social Innovation processes in a dense network of existing practices and institutions as a precondition for a better understanding of the relationship between Social Innovation and Social Change. Even though there is widespread recognition of the need for Social Innovation, for a long time no clear understanding of how Social Innovation leads to Social Change existed. Phenomena of Social Change are often looked at in connection with technological innovation, but without paying sufficient attention to elements of Social Innovation. In many areas (including several of the policy fields studied in SI-DRIVE, i.e. Energy, Mobility and Health), the social and technological dimensions of innovation are strongly interconnected and can hardly be separated from each other in explaining Social Change. Nonetheless, there are also many examples of Social Innovation that are largely independent from technological innovations and which could lead to Social Change by themselves. Overall, the technology-centred paradigm of explaining Social Change, shaped by the industrial society, seems outdated and needs to be extended and to assign appropriate prominence to Social Innovation.

Although the importance of a well-founded understanding of the relationship between Social Innovation and Social Change is emphasised time and again[12], for a long time social innovations have only been discussed "with few if any references to a theory of change, which is relegated to context or background" (Godin 2012, p. 35). Thus, in their analysis of European projects over the last years, Jane Jenson and Denis Harrisson (2013) reach the following conclusion: "Although Social Innovations pop up in many areas and policies and in many disguises, and Social Innovation is researched from a number of theoretical and methodological angles, the conditions under which Social Innovations develop, flourish and sustain and finally lead to societal change are not yet fully understood both in political and academic circles. However, in particular in the current times of social, political and economic crisis, Social Innovation has evoked many hopes and further triggered academic and political debates" (Jenson/Harrisson 2013, p.7).

The task of understanding and unlocking the potential of Social Innovation is on the research and policy agenda alike. In recent years, the social sciences and humanities have received more support in order to develop solutions, as can be seen in the international debate in which Social Innovation is treated as a distinct type of innovation and rendered more accessible as an object of empirical investigation. In Europe, a new generation of EU funded projects has developed a sound theoretical understanding of Social Innovation and its relation to Social Change, of its economic underpinnings, its incubation, its transformative potential and other relevant aspects[13].

Against this background, SI-DRIVE undertook research on the capacities and potentials of Social innovations *to modify or even re-direct Social Change*. The project is based on an understanding of Social Change that has shifted from a Western-driven vision of global modernity to a sceptical view of all universalism (e.g. Habermas 1985). It is accepted within the academic discourse that there are different paths towards modernity, following a variety of regional traditions and cultural value systems. This is for example expressed in studies on the cultural dimensions of globalization (Appadurai 2005), culture in the liquid modernity (Bauman 2011), variations of modernity (Beck/Grande 2010), and the world value studies (Inglehart/Welzel 2010). Following this theoretical perspective, social innovations arise in specific cultural contexts, in different places of the world. They are deeply rooted in local contexts – the micro-level settings. In order to achieve broader-level impact on regional, national and global scale, social innovations need to de-contextualize (or dis-embed) and stretch beyond the socio-cultural distinctions given by the local situation in which they have been developed. Equally when adapting social innovations from one specific cultural context to another, social innovations need to be re-contextualised and adjusted to the new local setting. Insofar, Social Change is the result of a complex and dynamic societal interaction process that – in our understanding – only becomes visible in changing behaviours and institutions.

Therefore it was necessary to analyse the political and *socio-economic environment* in order to answer key questions: Why, where and how does Social Innovation make a difference? What and who drives Social Innovation? And what are the critical factors enabling Social Innovation to produce sustainable impact and to be scaled up?

The following Chapter summarises the results of the SI-DRIVE project with regard to the relationship between Social Innovation and Social Change. Starting from the crucial research gap addressed by SI-DRIVE (see Chapter 8.2), paragraph 8.3 discusses the theoretical progress made by the project, referring to the reconfiguration of social practices as a basic element of processes for Social Change. Referring to the SI-DRIVE definition, Social Change is seen as the process in which *new social practices emerge,* become socially accepted, and diffused throughout society *by processes of imitation, adaptation, and social learning* (be it throughout society, larger parts of it, or only in certain societal sub-areas), transformed, depending on circumstances, and ultimately institutionalised as new social practice or made routine. In this respect, Social Innovation is a *core element and a generative mechanism* of Social Change and, consequently, the process of Social Innovation has to be seen as a process of Social Change. Embedded in this broad conceptual framework, the Global Mapping and the Case Studies revealed the capacities of social innovations to modify or even re-direct Social Change (see Chapter 8.4). However, the very idea of systemic or transformative change, defined as change of the basic institutions, further

[12] Sound evidence of this can be found in the key publications in the field of Social Innovation research in recent years (Howaldt/Schwarz 2010; Westley et al. 2011; Nicholls et al. 2015; Klein et al. 2016; Howaldt/Schwarz 2016).

[13] A new generation of EU-funded projects is working on a sound theoretical understanding of Social Innovation and its relation to (transformative) Social Change, on the economic underpinnings of Social Innovation, its incubation, and other foci (besides SI-DRIVE (www.si-drive.eu), see SIMPACT (http://www.simpact-project.eu/), TRANSIT (http://www.transitsocialinnovation.eu/) and CrESSI (http://www.sbs.ox.ac.uk//faculty-research/research-projects/cressi)).

implies that multiple institutions, norms and practices will be involved, and that multiple kinds of complementary innovations will have to be introduced in order to cope with the high complexity of problems that require structural changes in society. Such an understanding of the relationship between Social Innovation and Social Change has implications for the (multilevel) governance of Social Change processes and the role of policy. The shift in perspective to Social Innovation directs the focus onto the experimental shaping of social learning processes, onto mechanisms of imitation and hence onto non-linear, non-sequential forms of spreading, institutionalisation and routinisation.

8.2 RESEARCH GAP ADDRESSED BY SI-DRIVE

The Critical Literature Review and the global mapping of SI-DRIVE *underpinned the underdeveloped status of conceptualisation of the relationship between Social Innovation and Social Change*. There is no *clear understanding of how Social Innovation leads to Social Change* of existing structures, policies, institutions and behaviour (Howaldt et al. 2016; Howaldt et al. 2014). Obviously, phenomena of Social Change have been consistently looked at in innovation research conducted within the social sciences. And especially in areas such as energy, mobility or health, all defined as distinct policy fields in the SI-DRIVE project, social and technological elements of innovation are closely interwoven and, for the sake of describing their influence on Social Change, can hardly be separated.

Looking at the international discussion on the topic of Social Innovation, it is clear that the question of the relationship between Social Innovation and Social Change is increasingly becoming the focal point of debate (Howaldt/Schwarz 2010; Westley et al. 2011; Nicholls et al. 2015; Klein et al. 2016; Howaldt/Schwarz 2016). Starting from the growing awareness of the significance of social innovations in dealing with the major societal challenges, the dysfunctionalities of an understanding of Social Change that is focused on economic and technological innovations are becoming apparent; and efforts to theoretically come to grips with this relationship have increased. Despite increasing attempts to conceptually grasp this relationship, the results so far remained unsatisfactory (Howaldt/Schwarz 2016, pp. 8).

There was a *need for robust models for the creation, roll-out and diffusion of social innovations*, as well as for the development of a better knowledge and understanding about how they relate to Social Change. Considering the complexity of innovation processes, a broader concept than the Social Innovation cycle to understand the process dynamics of Social Innovation was needed (Davies 2014). At the same time, it was necessary to put a stronger focus on the social mechanism of innovation processes (e.g. social learning, imitation). An important theoretical point of reference is reflecting on Gabriel Tarde's micro-sociological and poststructuralist approach (Tarde 2009). Within this approach, the terms "imitation", "invention" and "innovation" are central to the understanding of how Social Innovation contributes to systemic Social Change (ibid.). Tarde's concept also plays a very important role in Latour's Actor-Network Theory that treats objects as parts of social networks (Latour 2009). This opens up a new integrative perspective on the relationship between technological and Social Innovation (Degelsegger/Kesselring 2012).

However, if social innovations could not sufficiently be separated in substance and functionality from aspects of Social Change, innovations in general, or other specific innovations, 'Social Innovation' would not be useful as an analytical term or subject for empirical research. The material difference between Social Change and Social Innovation rests in the latter being associated with "planned and coordinated actions" (Greenhalgh et al. 2004, p. 1). While Social Change, as a "process of change in the social structure of a society, its underlying institutions, cultural patterns, corresponding social actions and conscious awareness" (Zapf 2003, p. 427), can hardly be traced back to specific intentions, most social innovations are the result from intentional, goal-oriented action to establish new social practices in certain areas (Howaldt/Schwarz 2010). The "systemisation of trend-setting innovations" as well as "path-enhancing Social Changes" is, however, an extremely difficult process with many requirements (Gerber 2006).

A theoretically sound concept of Social Innovation is a precondition for the development of an integrated theory of socio-technological innovation in which Social Innovation is more than a mere requirement, side effect or result of technological innovation. Only by taking into account the unique properties and specifics of Social

Innovation in different contexts it becomes possible to comprehend the systemic connection and characteristics of social and technological innovation as driving forces in the overall processes of Social Change.

8.3 FROM "TRANSITIONS IN REGIMES" TO "TRANSITIONS IN PRACTICES" - RESULTS OF THE THEORY WORK

Given this situation, the Critical Literature Review (Howaldt et al. 2014) provided a general depiction of how Social Innovation resonates within the wider frameworks of existing innovation theory and research, the concepts and perceptions of Social Change, and of societal and policy development. At the same time, a theoretically sound concept based on social theory was developed. Based on the working definition, it was possible to develop five key dimensions which fundamentally affect the potential of social innovations, their scope, and their impact. *The key dimensions guided our theoretical and empirical work, diversified in seven distinct policy field*s and have been linked to a coherent theoretical and methodological framework (Chapter 2).

The second theoretical report of the SI-DRIVE project "Social Innovation and its relationship to Social Change" (Howaldt/Schwarz 2016) changed perspective and *examined existing theories of Social Change* with regard to their potential contribution to a better understanding of the relationship between Social Innovation and Social Change. As a first result, it became clear that the terms "Social Innovation" and "Social Innovator", which first started appearing more frequently at the beginning of the 19th century semantically, were, from the outset, closely linked to processes of social transformation as specific forms of Social Change (Godin 2012)[14]. Without their content being precisely defined, they were widely used, primarily in Britain and France, with both a positive but also a negative connotation in discourses about a socialist transformation. The main focus was the fundamental transformation of the social system and the structures that support it: in other words, the transformation of the order and institutional structure of society as a whole. With the rise of the concept of social reform in the mid-19th century, "Social Innovation" acquired a connotation associated more closely with intended transition or transformation processes that affect (only a) part of society, with an intention orientated towards problem-solving, such as in the fields of education, working conditions, and equal opportunities.

On the other hand, by analysing existing theories of Social Change it became clear that *social innovations play only a subordinate or isolated role in theories of Social Change* for a long time. The significance of the concept in processes of Social Change has received little attention and therefore remains largely unexplained (ibid., p. 54). However, we found that although a specific 'sociology of Social Change' has developed based on the work of William F. Ogburn (1922; 1969), the relevant definitions of Social Change vary greatly with the respective underlying units "whose change is referred to as Social Change" (Zapf 1971, pp. 13); i.e. they vary with the respective underlying area of study as well as with the levels of society on which Social Change is investigated. Moreover, there is competition between different basic assumptions in social theory and theory types (see Boudon 1983, pp. 22; 1986, pp. 10). "Since there is no universalist theory of Social Change whose explanatory claim is unchallenged in sociology, we have to deal with a large number of theories and theoretical traditions that contribute to an understanding and explanation of Social Change" (Weymann 1998, pp. 17). The large numbers of concepts and theories that exist have contributed to scepticism as to whether it is even possible to devise a meaningful theory of Social Change[15].

The following paragraphs will discuss the key theoretical aspects of the relationship of Social Innovation and Social Change based on the SI-DRIVE definition and focusing on transition in practices, the establishment of new institutions and the mechanisms of Social Change.

14 The term "social transformation" is not clearly defined and has a variety of meanings. In the broadest sense it describes the transition from one system state to another by changing key process components, and hence a specific type of Social Change. We use the term in the sense of a fundamental change of direction and transformation of the order and institutional structure of society (see Zapf 1997). Similarly the TRANSIT project defines transformative change as change of dominant institutions (see Haxeltine et al. 2017, pp. 8)
From a practice-theory perspective, following Jaeggi (2014, p. 20), the transformation of ways of life could be interpreted in this sense. Ways of life, according to Jaeggi, are culturally shaped forms of human coexistence(ibid.), comprising both an ensemble of practices and orientations, and their institutional manifestations and materialisations.
15 In the related SI-DRIVE report Howaldt and Schwarz (2016, p. 57) come to the conclusion that a generally accepted theory of Social Change which is adaptable for Social Innovation research does not exist.

8.3.1 Transition in Practices

If Social Change refers to the *reconfiguration of practices* from which sociality arises, in this perspective it cannot be perceived as the result of an evolutionary process but as a reaction in the shape of processes of reflexive social learning towards existing ways of life and forms of practices becoming obsolete (Jaeggi 2014). In this sense, Social Change is driven by changing social practices and stimulating social innovations based on continuous new adaptation and configuration anchored in social practices themselves, which means real experiments with the participation of heterogeneous actors understood as carriers of social practices and in the context of an unequally self-organised co-evolutionary process (see Shove 2010, p. 1274; Shove et al. 2012, pp. 162).

With regard to the 'practice turn' in the field of social sciences (see Schatzki et al. 2001; Reckwitz 2003), practice theories are an important component of a theory of Social Innovation (Howaldt/Schwarz 2010, pp. 53). In this sense, Social Innovation can be "interpreted as a process of collective creation in which the members of a certain collective unit learn, invent, and lay out new rules for the social game of collaboration and of conflict or, in a word, a new social practice, and in this process they acquire the necessary cognitive, rational and organizational skills" (Crozier/Friedberg 1993, p. 19). Social innovations *encompass new practices, methods, processes, and regulations* that are developed and/or adopted by citizens, customers, politicians etc. in order to meet social demands and to resolve societal challenges in a better way than is possible with existing practices (see SI-DRIVE definition).

This perspective on Social Innovation enables us to better understand the multiplicity of drivers and initiatives engaged in the process of invention, creation, imitation, and adoption of (technical and) Social Innovation. What we are talking about here is – in comparison to action, system, and structural theories – a modified understanding of what social behaviour is and, for this reason, also of the 'social' as social practices (Shove et al. 2012). These can be found between routines and incalculability, closeness and openness for change. They open up a perspective on their reconfiguration as a core element of Social Innovation.

8.3.2 Social Innovations as the Establishment of New Institutions Guiding New Forms of Social Practice

Drawing upon practice theory, we have taken an important step in developing a theoretically grounded concept of Social Innovation, which we consider the essential condition for meeting the demand for an integrative theory of socio-technical innovation. In reference to practice theory and Tarde's social theory (see Howaldt et al. 2014), it was possible to develop a sound and comprehensive concept of Social Innovation and its relationship to Social Change. In this understanding social innovations *have the potential to establish new institutions guiding new forms of social practices*, often coinciding with the disruption of existing institutions. Institutions are rule systems which reproduce social practices (relatively) independent from individual persons, time, and space (Giddens 1984). With the term institution, Giddens thus denotes the long-term stability of a social practice. With Giddens we can say that institutions, as structural elements, enable or restrict social practices. Institutions are reproduced by conform behaviour, often in the form of non-questioned routines, and may be challenged by non-conform behaviour. Institutions are usually connected to mechanisms which either reward conform behaviour or sanction non-conform behaviour. What once may have been a result of power struggle or negotiation and consensus-making becomes unquestioned and in its concrete history opaque routine behaviour. However, institutions themselves are part of society's figurations, which are in a state of permanent change (Elias 1977), and again, are constantly challenged by changing social practices.

A social practice does not become an institution from one day to the other. There must be *a constant process of institutionalisation and de-institutionalisation* which comprises different 'layers' and may be expressed in different *'degrees'*. Institutions are not a static final state – on the contrary, they still rely on reproduction, they may change 'silently' or they may be challenged by individuals and groups. Finally, institutionalisation and de-institutionalisation are parallel processes – as new social practices relate to existing social practices. Newly institutionalised practices may challenge and eventually substitute existing institutionalised practices. Institutionalisation and de-institutionalisation are therefore key concepts to describe the dynamics of Social Change (Howaldt et al. 2014).

Referring to the SI-DRIVE definition, Social Change is the process in which *new social practices emerge,* become socially accepted, and diffused in society *by processes of imitation, adaptation, and social learning* (be it throughout society, larger parts of it, or only in certain societal sub-areas), transformed depending on circumstances and

ultimately institutionalised as new social practice or made routine. Diffusion and institutionalisation[16] have to be understood as parallel processes, determining the *stability or instability* (vulnerability) of a social practice. For the process of institutionalisation, we may differentiate *dimensions and degrees* of institutionalisation. The 'degree of institutionalisation' (relative stability or instability of a social practice) can be assessed based on criteria. The process dimension of social innovations concerns the creation and structuring of institutions as well as behavioural change (Hoffmann-Riem 2008, pp. 591), and the empowerment of actors (Crozier/Friedberg 1993, p. 19). The decisive criterion in a social invention becoming a Social Innovation is its institutionalisation or its *transformation into a social fact* (Durkheim 1984), in most cases through planned and coordinated social action.

8.3.3 Social Innovation as a Core Element and Generative Mechanism of Social Change

In this respect, Social Innovation is a *core element and a generative mechanism* of Social Change and, consequently, the process of Social Innovation has to be seen as a process of Social Change. The relationship between Social Innovation and Social Change is then a *question of breadth and depth* in which a social innovation spreads in society or the societal subsystems and fundamentally, yet temporarily, changes these by being institutionalised as a new social practice changing the existing structures, policies, institutions, and behaviour.

If we want to understand Social Innovation triggering Social Change, we have to analyse:

- in how far Social Innovation is diffused in society and societal subareas (geographically, policy field related and according to overarching cultural patterns);
- to what degree it has been institutionalised (made routine, triggered or influenced new regulations, organisations, infrastructures…);
- and to what degree *established social practices* are challenged by these new contestants for becoming a dominant, co-existing or niche practice.

The way new social practices relate to existing and institutionalised practices is highly relevant for their diffusion and institutionalisation. This leads to the study of parallel and interdependent processes of institutionalisation and de-institutionalisation which constitute Social Change. Processes of diffusion and institutionalisation are very complex and cannot be seen as mere result of the intention of an actor or a group of actors. So while Social Innovation is associated with *"planned and coordinated actions"* (Greenhalgh et al. 2004, p. 1), the process of Social Change is much more complex.

Against this background the demand for a deeper analysis of the *mechanisms of Social Change processes* came to the fore.[17] According to the authors' approach of the SI-DRIVE in-depth case study report on Poverty Reduction and Sustainable Development (Millard et al. 2017), the mechanisms of Social Change are divided into three groups:

- **Input and process mechanisms** - these consist of the inputs and basic processes that Social Innovation needs to affect Social Change: *learning, variation and selection*.
- **Driver mechanisms** - these consist of the drivers that Social Innovation needs to effect Social Change: *conflict/tension, competition and cooperation*.
- **Structural mechanisms** - these consist of the wider structural changes Social Innovation needs to address societal needs and challenges and thereby effect Social Change: *diffusion of innovations*

16 Diffusion is defined as the process in which Social Innovation spread in society and societal subarea (geographically; policy field related; overarching cultural patterns), whereas institutionalisation means the depth in which a new social practice is embedded in society or societal subareas and replaces existing practices.

17 The mechanisms-approach and especially Archer's Morphogentic Approach as well as structuration theory proved themselves as promising foundations for an adequate understanding of social dynamics. These theoretical concepts disaggregate the notion of society and identify mechanisms that contribute to the stability and change of social order. In respect to the institutionalisation of new and de-institutionalisation of established practices as a key concept of the description of dynamics of Social Change, these social theoretical reflections can in connection with more recent institution-theoretical considerations be linked to a process-methodological framework. For Tarde, imitation is the central mechanism of social reproduction and Social Change. "All similarities of social origin that belong to the social world are the fruits of some kind of imitation, be it the imitation of customs or fashions through sympathy or obedience, instruction or education, naive or carefully considered imitation." (Tarde 2009, p. 38). Since imitation always involves variation as well, imitations simultaneously transform innovations into social structures and practices.

> (including of technological innovations) and complementary innovation, *planning* and *institutional change* can be considered structural mechanisms that enable wider impact. (see Chapter 3)

In this sense, Social Change is a process of changing social practices and stimulating social innovations based on continuous new adaptation and configuration anchored in social practices themselves, which means real experiments with the participation of heterogeneous actors understood as carriers of social practices and in the context of an unequally self-organised co-evolutionary process (Shove 2010, p. 1274; Shove et al. 2012, pp. 162.).

According to Tarde (2009), it seems meaningful to creatively reconfigure the potential of existing inventions through imitation, rather than constantly producing new individual inventions. This is reflected by the mapping results of SI-DRIVE, meaning that about half of the initiatives are offering brand new solutions in their view, and also half of them are (moderately or significantly) adopting already existing solutions. If we follow Tarde in pointing out the *social embeddedness of any invention in a dense network of imitation streams*, then social innovations are first and foremost ensemble performances, requiring interaction between many actors. As the opening of the innovation process to society is a key characteristic of the new innovation paradigm (Howaldt/Kopp 2012, p. 45), there is an accompanying increase in the experimental processes which take place not only in the separate world of scientific laboratories but also in society (Krohn 2005). Social innovations and their protagonists who critically, exploratively, and experimentally depart from the prevailing 'mental maps', the established rules, routines, pathways, and models in politics, business, and society – such as the economisation of all areas of life including an inevitable link between prosperity and growth (Leggewie/Welzer 2009; Jackson 2012; Geiselberger 2017) – and who will call these into question. In a 'competition of ideas', they could also lead the way to changing, alternative social practices and lifestyles as the basis and main drivers of transformative Social Change (see Jonker 2012).

A new (social) practice must initiate self-organized processes of imitation and adoption in society or societal subareas. That is why scaling strategies of actors/or group of actors are not enough, even if they combine strategies for scaling out and scaling up.[18] These strategies are an important part of the process of diffusion and institutionalisation that may be seen as a necessary condition or essential prerequisite for a social innovation. Yet, in order to successfully contribute to Social Change, a new social practice must trigger or initiate (self-organised) processes of imitation and adoption in society or societal subareas.

The examination of the constitutional elements of practices, of bundles, and complexes of practices helps us to better understand processes of Social Change including transformative Social Change. By describing stability and mobility of the elements, one can show how contours of practices develop and change. In a sense, each new combination of elements and practices is an emergent result of previous practices. The subject matter of Social Practice Theory is the relational interdependency between incorporated sociality, social practices, and objectified sociality, the practices generating relations. Systems of classes, power, states, and economies are constituted by nothing more than the repetitive performance of practices. Transformative Social Change refers to the reconfiguration of *dominant* practices and institutions from which sociality arises (see also Haxeltine et al. 2017, p. 8), and therefore to social innovations.

Social learning processes are reflexive processes, which neither occur inevitably nor by themselves, but are shaped by actors and as such open and interminable. In contrast to terms and concepts like system and regime, ways of life denote various correlations of practices instead of closed and fully integrated entities (Jaeggi 2014, p. 118). They represent rather experiments in problem solving and, at the same time, of Social Change. This results in a conception of Social Change as rational, problem- and crises-induced social learning processes, i.e. reflexive processes (ibid, pp. 321), whereby criteria of rationality focus on the transformation itself. Social Change is, thus, conceptualised as a more or less successful reaction to existing ways of life and practices becoming obsolete; as a self-enriching and open learning process in the sense of a modified reacting to non-anticipatable consequences that emerges within practices.

This understanding allows a theoretical combination of (social) problems, social practices, social innovations, and processes of Social Change - including transformative Social Change - and hence opens up the perspective

[18] While strategies for scaling out focus on the replication in other geographical areas, strategies of scaling up take a systemic perspective and tackle the institutional causes of a problem (Westley et al. 2011).

of a critical reflection of ways of life and as such, of social innovations. In methodical-analytical respect, this calls for building upon the social practices and the mechanisms of their diffusion and institutionalisation, their inbuilt learning processes, the confrontation of ways of life with problems and deficiencies in their solutions, as well as experiments with the latter.

A sociological theory of innovation, in our view, must examine the multiple and manifold imitation streams and must decode the principles and laws they follow. It is only via social practice that the diverse inventions etc. make their way into society and, thus, become the object of acts of imitation. Social practice is a central component of a theory of Social Change, in which the wide variety of everyday inventions constitute stimuli and incentives for reflecting on and possibly changing social practices. Here, Tarde's social theory can be understood and developed further as a theory of the "innovations of society" (Rammert 2010) that is capable of decoding the relationship between Social Innovation and Social Change. As a forceful scientific conception of active social life (Toews 2013, p. 401), this concept of innovation is free from the intense focus on the technological and economic reference context which has been dominant since the work of Schumpeter. Such a theory will be sufficiently abstract for an all-embracing concept of innovation as social phenomenon, and will enable both a specification in relation to different reference contexts and an integrative examination of social and technological innovations.

On this theoretical basis it was possible to analyse the processes of Social Innovation embedded in their social and cultural environment (see Dhondt et al. 2017). The practice field approach of SI-DRIVE allows analysing the processes of diffusion beyond the micro-level of single small scale social innovation initiatives and a data collection at a more societal level, where wider user groups and a certain societal impact has been reached and where moments of societal change are observable.

8.4 THE VARIETY AND COMPLEXITY OF PROCESSES OF SOCIAL CHANGE[19] - RESULTS OF THE EMPIRICAL WORK

While the Global Mapping with a global selection and collection of 1.000 and more cases has led us to a comprehensive picture of world regions and policy fields, the in-depth analysis of 82 selected cases gave further insights related especially to the dynamics, actor's constellations and mechanisms of change. The results of the first empirical research phase of SI-DRIVE demonstrated that this approach is helpful in integrating the manifold meanings of Social Innovation under *a shared umbrella definition* based on and leading to a common concept and framework (Chapter 2).

By referring to "social practices", the concept allows us to cover a *broad spectrum of social innovations* which are present in the policy fields, including even those initiatives which are not explicitly called social innovations. At the same time the concept helps us to understand how social innovations encompass new practices – concepts, policy instruments, new forms of cooperation and organisation – and methods, processes and regulations that are developed and/or adopted by citizens, users, beneficiaries, customers, entrepreneurs, politicians etc. in order to meet social demands and to resolve societal challenges in a better way than existing practices.

The *focus of the case studies* rested on a better understanding of the process dynamics of Social Innovation (Chapter 6) and its relationship to Social Change, on the one hand, and the functions and roles of actors and the network of actors alongside the innovation process on the other hand (Chapter 5). Therefore, it was crucial to understand the conditions under which Social Innovation takes place, explores and explains the variety of processes and networking through which Social Innovation occurs.

8.4.1 Repairing, Modernising, and Transforming: How Social Innovation Initiatives Challenge Existing Institutions

As the results of the Global Mapping show, today and in nearly all regions of the world, countless Social Innovation approaches of every conceivable kind can be found in areas of social integration through education, employment and poverty reduction, in establishing sustainable patterns of consumption, and in the development

[19] An important limitation of the empirical basis is the young and infantile stadium of most Social Innovation projects or initiatives that have been studied. Most of the initiatives are founded within the last ten years, but there are also some already established NGO/NPO like the Red Cross. As emphasised in chapter 3, this is an ongoing obstacle for a systematic, evidence based understanding of the process dynamics and the analysis of the role of Social Innovation in processes of Social Change.

of new forms of mobility, of energy supply, health and social care. At the same time, with a large range of different forms and concepts, and a strong dependence on regional context, interest focuses on social and ecological needs and problems (see Howaldt et al. 2016; Carayannis et al. 2012). However, these initiatives and projects are diverse and complex in their aims and effects (Chapter 2). In this context the mapping reveals the capacities of social innovations to modify or even re-direct Social Change and to empower people – i.e. to address a wide variety of stakeholder groups, as well as the broader public, in order to improve social cohesion and to allow for smart, sustainable and inclusive growth (European Commission 2010). The mapping shed light on the great many, often nameless but still important social innovations responding to specific and every-day social demands or incremental innovations. The distinction between three different output levels is taken up by the SI-DRIVE project, but also has to be modified to some extent: There is a strong relationship between social demands, unmet social needs societal challenges and transformative Social Change in different policy fields and approaches.

With their orientation to the solution of social and ecological problems that cannot be sufficiently dealt with via traditional forms of economic and government activity, social innovations *challenge existing practices and institutions in different ways and contribute to its development*. Many of the social innovation initiatives, to a certain extent, carry out repair functions without fundamentally changing the prevailing practices and associated institutional structure. Moreover, many projects and initiatives do not develop the hoped-for impact on society, instead often remain limited to the local, experimental level (see Howaldt et al. 2016, p. 22). Other initiatives adopt a wider perspective, and orientate their actions towards the major social challenges and the establishment of related new forms of cooperation between different actors and across sectors, combined with a redefinition of the relationship between social and economic value. They generally aim to modernise existing structures (see Zapf 1997). Only a few initiatives have an explicitly transformative aim in the sense that they want to contribute to a fundamental change in practice formations and in the institutional structure of society (see Howaldt et al. 2016a, pp. 42; BEPA 2010, pp. 26).

However, these initiatives and projects are diverse and complex in their aims and effects. Like any innovation, social innovations too, regardless of their protagonists' intentions, are in principle ambivalent in their effects, and new social practices are not per se automatically the ''right'' response to the major social challenges and the normative points of reference and goals associated with social transformation processes. Instead, they open up options for the development of new social practices, and challenge existing ones.

8.4.2 The Practice Field Approach and the Embeddedness of Social Innovation Processes in a Dense Network of Existing Practices, Routines, Institutions

The Policy Field Reports confirm that the societal and governance systems, in which the social innovations are embedded, are complex and the problems addressed are deeply rooted in established practices and institutions. At the same time, we have to admit that many initiatives are small in scale. Therefore - as we emphasized in the Critical Literature Review (Butzin et al. 2014a, p. 154) - to better understand this relationship between Social Innovation and Social Change, we have to analyse the social embeddedness of any innovation in a dense network of existing practices, routines, institutions and context conditions on the one hand and innovation streams on the other. Any social innovation results in an outcome for those involved, yet to disseminate an impact further into society depends on certain conditions and mutual resonance between multiplicities of social innovations. Growing numbers and range of social innovations may likely affect pace and perhaps directions of Social Change.

Against this background, SI-DRIVE developed the concept of the practice field - defined as a general type of different initiatives within one thematic area at a meso-level - for analysing the complex process of interaction of similar innovation activities (see SI-DRIVE approach). While an initiative is a *single* and concrete implementation of a solution to respond to social demands, societal challenges or systemic change (e.g. Muhammed Yunus's Grameen Bank which lends micro-credits to poor farmers for improving their economic condition), a practice field describes general characteristics common to different projects (e.g. micro-credit systems) (see Chapter 1).

The practice field approach allows analysing the processes of diffusion beyond the micro-level of single small scale social innovation initiatives and a data collection at a more societal level, at which wider user groups and a certain societal impact has been reached and where moments of societal change are observable. At the same time, the approach allows us to study the interplay between micro or small scale developments and their merger

at the macro-level (Howaldt et al. 2016, p. 18). Only by taking the broader perspective of a practice field we will be able to get deeper insights into upcoming trends and emerging areas for Social Innovation and their impact on Social Change.

8.4.3 Complexity of Innovation Processes and Cross-Sector Cooperation

Considering the complexity of innovation processes, we need to focus on the cross-sector dynamics of Social Innovation and the diversity of actors and their roles and functions within the innovation process (including their interaction in networks etc.) as well as on the framework conditions (including governance models, addressed societal needs and challenges, resources, capabilities and constraints). Thus, a systemic approach to Social Innovation concentrates on the interfaces of the so far differentiated and largely separate self-referential societal sectors of state, business, civil society and academia, of their corresponding rationalities of action and regulation mechanisms, and on the associated problems and problem-solving capacities. With regard to the question of how these interfaces can be reconfigured in the sense of sustainability oriented *governance*, established steering and coordination patterns are complemented, extended and shaped by aspects like self-organization, cross-sector co-operation, networks, and new forms of knowledge production.

Embedded in this broad conceptual framework, the Global Mapping and the Case Studies reveal the capacities of social innovations to modify or even re-direct Social Change and to empower people – i.e. to address a wide variety of stakeholder groups, as well as the broader public, in order to improve social cohesion and to allow for smart, sustainable and inclusive growth. The distinction between three different levels of outcome is taken up by the SI-DRIVE project, but also has to be modified to some extent. There is a strong relationship between social demands, unmet social needs, societal challenges and Social Change in different policy fields and approaches. However, the very idea of systemic change implies that multiple institutions, norms and practices will be involved, and that multiple kinds of complementary innovations would have to be introduced in order to cope with the high complexity of problems which require structural changes in society. Only then will we be able to fulfil the excessive expectations of ground-breaking *systemic* social innovations (or *radical* innovations in the common language of innovation theory and research), and transformative change.

8.4.4 Transformative Change and Multilevel Governance

Such an understanding of the relationship between Social Innovation and Social Change has implications for the governance of Social Change processes (see Chapter 6). The shift in perspective onto Social Innovation directs the focus onto the experimental shaping of social learning processes, onto mechanisms of imitation and hence onto non-linear, non-sequential forms of spreading, institutionalisation and routinisation. The question of how social transformation processes can be set in motion steers attention towards "real utopias", understood as "institutions, relationships and practices which can be developed in the world as it currently is, but which anticipate the world as it could be and help move us in this direction" (Wright 2017, p. 11).

A policy informed by practice theory therefore focuses on social practices and social innovations instead of on technologies and the external influencing of attitudes, behaviours and decisions. It starts with the disruptive contradictions between established ways of life and forms of practice, between social problems and existing problem-solving deficiencies (see Jaeggi 2014). It relies on "enhancing society's ability to reflect in observing and actively shaping transformation processes" (Schneidewind 2013) and on a readjustment and reconfiguration of their elements, rooted in social practices. The main task is to configure the relations between practices, between practices and their agents, the networks through which practices circulate and are formed (Shove et al. 2012), through (and by promoting) social inventions and by enabling and empowering actors to conduct real-life experiments for self-organised, co-evolutionary social learning processes.

Social practices — hence social innovations too — are always the result of complex emergent processes over which no single actor has control. Politics does not intervene in this process from outside, but is instead part of the social arrangements (see Shove et al. 2012, pp. 144) which configure the social practices. It focuses on empowering actors "to suspend established routines and patterns so that new ideas and behaviours have a chance to flourish" (Adolf 2012, p. 40) as well as on the necessary "freedom to act" and the opportunities for "sharing objectified and personal (implicit) knowledge" (ibid., p. 41), and appropriate learning governance formats. Instead of a linear, sequential view of the relationship between invention, innovation and diffusion, transformative change is seen as the social, collaborative reconfiguration of social practices, which is fed from

the interplay between multiple invention and imitation streams in a "circuit of acts that are interlaced and repeat themselves with variations" (Tarde 2009; p. 146). To the extent that transformation paths which are created in singular social "real-utopian innovations" in Wright's sense (see above) can be combined with one another, they can unfurl their potential for transformative change (Wright 2017, p. 489).

8.5 CONCLUSION AND OUTLOOK – SOCIAL INNOVATION: DRIVING FORCE OF SOCIAL CHANGE

With the growing awareness of and discussion on the major, and in many respects interrelated, challenges facing society – such as climate change, energy supply, demographic trends, and poverty reduction – the awareness is increasingly spreading that sustainable development will not be achievable without social innovations. Experiences over past decades highlight the dysfunctionalities of a one-sided economic and technologically orientated understanding of innovation, and of an innovation policy based on this. The prevailing focus on technical and economic innovations alone is not sufficient, neither in dealing with the big social challenges, nor in solving social problems and unmet needs at local and regional level.

Even though there has been greater discussion of social transformation processes in recent years, with an emphasis on the importance of social innovations, this is still happening more as a kind of descriptive metaphor for what is socially desirable or good, rather than on a basis of conceptual clarity. Established approaches for analysing and shaping social transformation or "transformative change" (UNRISD 2016) often lack not only a clearly defined concept of transformation, but, above all, a concept of Social Innovation that is grounded in social theory. To understand processes of Social Change in all their complexity, we need a theoretically grounded concept that does not describe Social Change in the pattern of interpretation of socio-technical systems and regimes that comes from the sociology of technology. What appears in the pattern of interpretation of socio-technical systems (e.g. the Multi-Level Perspective) as a rigid socio-technical regime is rather a fluid interplay between practices and arrangements that mutually influence each other in their stability and dynamism. By abandoning the idea of a rigid, coherent, highly integrated socio-technical system, which needs impulses from outside (landscape) in order to change, and by thinking of Social Change as a self-sustaining process, which can be described in terms of the interaction between loosely linked practices and arrangements, it assumes greater plasticity, which shifts the focus of interest onto a coexistence of different elements with, in some cases, opposing dynamics. Thus, attention now focuses on the diverse mixtures of social practices — dynamically reinforcing, crossing and opposing one another, from which multiple innovation streams emerge — and on cross-sectoral actor groupings, learning processes, experiments and initiatives. In this respect, it is important to take up and apply the inputs from practice theory regarding the analysis and explanation of the spread or non-spread of innovations as tending to be a self-referential process with no beginning or end.

The practice-theory perspective on the dynamics of social practices and processes of Social Change - the basis of the SI-DRIVE project - provides the foundation for a concept of Social Innovation, grounded in social theory, as "an intentional, targeted recombination or reconfiguration of social practices, which is attributable to certain actors or groups of actors in particular areas of action or social context, with the goal of solving problems or satisfying needs better than is possible based on established practices" (Howaldt/Schwarz 2010; p. 54). The new here is manifested not in the medium of technological artefacts, but in complex interconnections between social practices and material arrangements (see Schatzki 2016, p. 86). It is a social innovation if, and in so far, particular inventions, ideas and initiatives are imitated, adapted context-specifically and (as a result) are leading to a change in social practices in or between specific areas of society as the expression and driver of Social Change.

On the basis of a theoretical framework which has been developed step by step in the course of the theoretical and empirical work of the project, important building blocks for a theoretical sound understanding of the role of Social Innovation in processes of Social Change have been developed (Chapter 8.1) This also has functioned as the basis for the development of a typology, analysing the relationship between Social Innovation and its social and cultural environment (Chapter 7.4). The focus is on social practices and its transition, the establishment of new institutions and the mechanisms of Social Change.

The strength of practice-theory approaches in connection with social-ecological transformation processes lies "in the detailed analysis of the emergence, stabilisation and changing of social practices in the structure of

specific practice fields. The ecological transformation of such practice structures, whether in the areas of food, energy, housing or mobility, or in land usage or water resource regulation practices, is in this respect an ideal field for the application of practice-theory approaches'' (Brand 2011, p. 195; see also Carayannis et al. 2012)

Transformation in the sense of sustainable development has a chance only if, and in all areas of society, established practices are questioned and ''members of a particular total population'' in a ''process of collective creation [...] learn, i.e. invent and establish, new ways of playing the social game of collaboration and conflict, in a word a new social practice, and in the course [...] acquire the necessary cognitive, relational and organisational abilities'' (Crozier/Friedberg 1993, p. 19). Researching this process and the associated potential for critical reflections and intentional reconfigurations of social practices is central to the analysis of social innovations as generative mechanisms of social transformation processes.

The research conducted by SI-DRIVE has contributed to the development of a theoretically grounded concept of Social Innovation as key to an integrative innovation theory. This approach opens up fundamentally new perspectives on recognized problems and opportunities, thereby simultaneously unlocking new possibilities for action, especially in the light of the basic confusions and paradoxes in innovation policy at present. Based on the developed theoretical framework and the empirical results, recommendations for a comprehensive innovation policy have been elaborated (see Policy Declaration 2017). The recommendations pertain to advances in our understanding of Social Innovation, in supporting and resourcing social innovations, and in measuring and governing them.

Apart from the progress made, we also find some conceptual differences in the theoretical fields - not only with regard to the concept and understanding of innovation but also concerning:

- The understanding of Social Innovation ecosystem and its role in processes of Social Innovation
- The role of policy in promoting and enabling Social Innovation
- The mechanisms of Social Change,
- The relationship between social, commercial and technological innovation.

Other aspects that play an important role in the SI-DRIVE approach (e.g. gender and diversity, ambivalence etc.) have not been addressed sufficiently yet. This will be a task of the future research.

Further research needed

Apart from the achieved progress, with regard to a theoretical underpinning of Social Innovation research, there are still a *number of limitations* in the SI-DRIVE approach that should be addressed by further *research.* One of the most important points is the focus of the project, looking for cases that contribute to cope with the great societal challenges within seven mayor policy fields. So the cases observed in the empirical research of SI-DRIVE were mostly called „social innovation initiatives", not „social innovations". This was due to the fact that the definition applied specifically asked for „better solutions to societal challenges", thus all methods, activities and more or less ambitious *attempts* to improve social standards in general could be termed Social Innovation – when successful.

Future Social Innovation research should *directly address practices in real life* (not imagined as what *should* happen) and thereby taking into account the far reaching prospects that are suggested by the title of SI-DRIVE: „Social Innovation – Driving force of Social Change".

We understand social innovations as new *practices* that help us to better cope with needs and problems than is possible by use of existing practices. Most of the initiatives and projects observed during the mapping addressed social issues (i.e. primarily living and working conditions of people, either in a small target group like a local „initiative", or in major parts of society), in order to enable an entity, a number of social groupings, or organisations (including public institutions) *to interfere with Social Change*. To interfere with Social Change can occur as practically doing something to cope with Social Change, or to initiate and/ or counter an ongoing process of Social Change.

Building on the results of SI-DRIVE, future research must prioritize the following major topics:

- The (international, national, regional, cultural, social, economic, political) context of Social Innovation - what is going on pertaining to the modes, dynamics and forces (including real power structures in spheres of economies and politics) of Social Change? That also implies to a better understanding of the conditions for implementing Social Innovation, and of the emergence (or establishment) of favourable Social Innovation ecosystems.
- Further insight into the possible and favourable outcomes and impacts of new practices, ranging from improving the living and working conditions of vulnerable or disadvantaged social groups to triggering, enhancing or driving favourable Social Change and/or limiting/compensating the impact of less beneficial Social Change. This includes the development of indicators (such as Key Performance Indicators KPIs or "Societal Relevance Levels" compared with the "Technological Readiness Levels") that are suitable for a better social and economic impact as well as added social value measurement.
- The relationship to technological and business innovation in processes of transformative change (e.g. the 'digital transformation', the socio-ecological transition, etc.).
- The long-term impacts on existing practices and institutions have hardly been examined so far. A specific focus should be laid on the *ambivalence* of Social Innovation. The implementation of innovation and new technologies goes along with the displacement of previous ones. While innovation generates winners, it also generates losers at the same time (Kogan et al. 2013). In fact, this ambivalence was acknowledged as early as Schumpeter introduced the process of 'creative destruction', even though the vast majority of studies including the analysed cases within the SI-DRIVE project clearly focus on the successful and positive effects of innovation processes.
- Last but not least the role of Social Innovation in processes of societal and socio-technical transformation needs further investigation. While the TRANSIT project focusses on transformative social innovations – social innovations that contribute to processes of societal transformation - the results of the SI-DRIVE project emphasize the complexity of the relationship between Social Innovation and Social Change.

The development of a theoretically sound concept of Social Innovation is a precondition to elaborate an integrated theory of innovation which considers social, business, public sector and technological innovation under one common umbrella concept of innovation. It is also a precondition for strategic Social Innovation policy as part of comprehensive Research, Technology, Development and Innovation (RTDI) policies. An extended notion and generic understanding of '*innovation*' – comprising the classic concept of innovation, considering not least also the social impact of business innovations, plus the particularities of Social Innovation – may unleash a new complex of policies relevant for societal, economic and technology evolution. It could be termed, or encompass the following components respectively: Research, Technology in Society Development and Innovation (RTSDI) policy. The great challenge for contemporary innovation research lies in analysing the potential of Social Innovation in the creation of new social practices that enhance an inclusive, equitable, democratic, participative, and above all socially anchored future. This will allow people to live richer, more fulfilled and prosperous lives.

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