Atlas of Social Innovation. 2nd Volume: A World of New Practices

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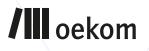
ATLAS OF SOCIAL INNOVATION

2ND VOLUME: A WORLD OF NEW PRACTICES

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PREFACE:
ATLAS OF SOCIAL INNOVATION –
ALLOWING PERSPECTIVES BEYOND
SILO THINKING

Since the release of the first volume of the Atlas of Social Innovation in early 2018, the pace of change around the world has continued to intensify. In the last year, there has been a collective awakening to the urgency of the climate crisis, thanks in part to the actions of one Swedish school girl; there is a swell of populism and citizens are establishing a new relationship with our political systems, as we see from Venezuela to Hungary to Hong Kong; our relationship with data, technology and automation is increasingly front of mind.

This means social innovation is needed now, more than ever. In order to make headway on these global challenges, we must further strengthen the global social innovation ecosystem. We must reinvigorate the social innovation movement around its core values of pluralism and diversity, in order to come together to work on these big global challenges.

From the experience of SIX, creating a strong network across practice fields and sectors is essential for successful social innovations. We challenge key institutions to re-examine themselves: philanthropic organisation must be bolder to increase the flow of funding into social innovation; universities must reimagine their purpose, seeing themselves as a resource for society, not just academia; our political institutions need to reconnect to people and share power; private sector companies must realign around purpose. We also bring these sectors together to have purposeful conversations around our shared challenges, in order to drive the transformation and impact we so urgently need.

The Atlas of Social Innovation is underpinning such network activities by providing an overview of social innovation around the world, its regional mainstreams, its current trends, ecosystems and infrastructures. By doing so, it is allowing perspectives beyond silo thinking towards better cooperation and joint activities across sectors and their specific viewpoints.

Since the release of the first volume in early 2018, a lot has happened in the diverse world of social innovation, particularly in Europe. Creating a Social Innovation Community that resulted in handing over the Lisbon Declaration on Social Innovation to the European Commission is one of the more important developments.

After the success of the first volume of the Atlas, this new edition widens the overview of the first by focusing on new aspects of the growing variety of social innovation in practice. Together with its virtual representation and the map of initiatives around the world, it is contributing to the important diffusion of accessible, shared knowledge on social innovation. It is a great help to all stakeholders across the world and across civil society, research, politics and business to better understand the potential and capacity of social innovation.

Louise Pulford
CEO, SIX

INTRODUCING THE ATLAS OF SOCIAL INNOVATION

Jürgen Howaldt / Christoph Kaletka / Antonius Schröder / Marthe Zirngiebl

In the two years following the publication of the first volume, social innovation has increasingly been attracting attention. Countless approaches and initiatives illustrate the dynamism and potential of social innovation to address the most urgent societal challenges and develop continuously new solutions for pressing problems. At the same time, social innovation is gaining importance in coping with the fundamental socio-digital transformation by increasing the innovative capacity and future sustainability of society. It is regarded as an important factor to achieve the Sustainable Development Goals and creates repeatedly more sustainable social practices in production and consumption.

Social innovation has become an integral part of the European Research Agenda and Innovation Policy. In Fall 2018, Carlos Moedas, the European Commissioner for Research, Science and Innovation, emphasized that "In the European Union, we are going to put more money into social innovation, not because it's trendy, but because we believe that the future of innovation is about social innovation."[1]

For a global community joining forces it is important to improve the groundwork. ESSI, the European School of Social Innovation, is a think tank strengthening social innovation by enhancing research and scientific knowledge on social innovation. It is considering itself as part of a growing transdisciplinary social innovation community bringing together stakeholders from civil society, academia, policy and companies. This growing Social Innovation Community is a joined force creating a supportive framework and a social innovation friendly environment of a world of new practices.

The Atlas of Social Innovation's second volume 'A World of New Practices' is a pivotal building block among ESSI's many activities. The **first chapter** provides insights into current research streams focusing on social innovation and contributing to its conceptual underpinnings. The articles provide an overview of different conceptualizations focusing on the creation of a new innovation paradigm, transformative innovation policy, insights from business innovation and for public policy, social movements, the relationship between work and digitalisation, and more. Furthermore, the chapter sheds light on the role of social innovation in urban

development and draws connections between the concept and the spread of transition towns. In the **second chapter**, we follow the tracks of social innovation around the world and present insights into its variety in several countries including Australia, Brazil, Japan, Mexico and Switzerland. The **third chapter** provides an overview of the conceptual development and practical examples of social innovation labs, discusses the role of higher education institutes and presents the process of creating a European social innovation declaration. However, a sound infrastructure supporting the creation and diffusion of social innovations has yet to be built. The establishment of social innovation labs in different parts of the world and in a variety of institutional settings provides a first idea of what this infrastructure could look like. Furthermore, supportive policies and programmes on national and European levels can further anchor social innovation in society.

By bringing together leading experts, the Atlas opens up new insights into current trends of social innovation research and its connection to other schools of thought and research traditions. As diverse as the new practices labelled social innovation are, the conceptual underpinnings draw upon the experiences of a variety of disciplines contributing to the rich, multi-layered nature of the phenomenon. The new Atlas of Social Innovation provides exciting insights in an emerging world of new practices.

[1] https://horizon-magazine.eu/article/carlos-moedas-eu-will-fund-more-social-innovation-because-it-s-future-innovation.html

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THE SOCIAL INNOVATION LANDSCAPE – GLOBAL TRENDS

The development of the social innovation research landscape is not bound to a single concept or theory but rather connects strongly to other schools of thought and research traditions. As diverse as the new practices described as social innovation are, the conceptual underpinnings draw on the experience of a variety of disciplines contributing to the rich, multi-layered nature of the phenomenon.

The following chapter provides insight into current research streams focusing on social innovation and contributing to its conceptual underpinnings in various ways. The articles provide an overview of different conceptualisations focusing on the creation of a new innovation paradigm, transformative innovation policy, insights from business innovation and for public policy, social movements, the relationship between work and digitalisation, and more. Furthermore, the chapter sheds light on the role of social innovation in urban development and draws connections between the concept and the spread of transition towns. It closes by presenting a framework for the development of indicators measuring the impact of social innovations.

FROM INNOVATION TO X-INNOVATION TO CRITICAL INNOVATION

Today, innovation is one of the key concepts of our vocabulary, a value and an injunction. How did we get here? For centuries, the concept was pejorative and contested. This article documents the history of the concept over the centuries and how social innovation contributed to giving the concept a higher status.

Benoît Godin

"Innovation is certainly a 'buzz-word' today", claimed engineer Jack Morton of Bell Laboratories in 1971. "Everyone likes the idea; everyone is trying to 'innovate'; and everyone wants to do better at it tomorrow" [1]. The concept of innovation is everywhere. In the media, in government literature and in academic journals. Innovation is a concept of Greek origin (kainotomia). The concept originally had an essentially political and contested connotation: introducing change into the political and social order. It entered the Latin vocabulary around the third and fourth centuries as "renewing" (innovo), with prominent uses that were positive: spiritual (return to pure or original soul – before sin) and legal (reenacting an old act). As a third step, at the time of the reformation, the concept entered the everyday vocabulary. Its use was widespread and mainly pejorative in the seventeenth century [2]. Over the last few decades, the concept gave rise to a plethora of new terms that gave some specific sense to an old concept. 'Technological innovation' is such a term, and it is certainly the dominant representation of innovation. Yet other terms that contest this representation have emerged more recently. 'Social innovation' is such a term that is now part of the semantic field of innovation. This article aims to make sense of the concept of innovation, historically and critically.
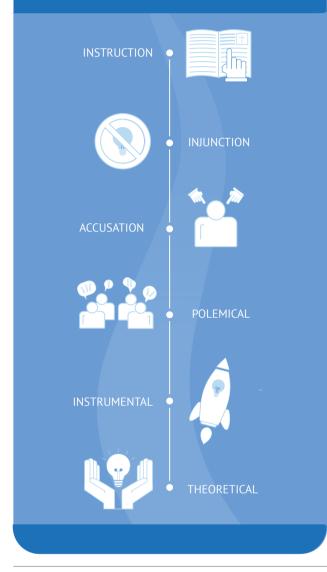
FROM RELIGION TO RELIGION

At the root of our modern concept of innovation is religion. The widespread use of the concept started at the Reformation, namely in England. As an innovation, but not so called at the time, the Reformation and its Reformers had to develop political, administrative and legal means to enforce and secure the Reformation. Language must also be added to this list as Monarchs used the concept of innovation to control the conduct of their subjects, through proclamations, declarations and statutes.

The use of the concept began as an instruction not to innovate. Henry VIII's private correspondence of the 1530s is full of letters to councilors and ambassadors as messengers, instructing them that His Majesty will not "endure" or "tolerate" innovation. In a second step, innovation became a public injunction. In 1548, Edward VI issued *A Proclamation Against Those that Do Innouate,* the first ever royal injunction against innovation. The proclamation placed innovation in context, constituted an admonition not to innovate (not to change but to respect the new doctrine and discipline of the Church) and imposed punishments on offenders.

From then on, the concept served every cause, political and ecclesiastical, and soon became an accusation. Throughout his reign (1625-1649), King Charles I suffered the accusation of innovating. The Presbyterian Scots and the English Parliament were particularly violent in their words against Charles, who was accused of "popish innovation". It is during this period that the concept became polemical. Everyone (archbishops, bishops, parliamentarians) accused the others (puritans, catholics, separatists) of innovation in religion and government. During the Reformation and afterward, the concept was used predominantly in the pejorative sense. The very few positive uses that existed were legal and spiritual. For example, popes used it for renewing a previous Act, and Thomas More for renewing of the soul. Overall, however, the negative meaning of the concept of innovation, a dominant connotation, continued until late in the nineteenth century.

> Then in the twentieth century, innovation became a word of praise. It came to be considered a source of progress, political, social and material.

Evolution of the Uses of the Concept

- INSTRUCTION
- INJUNCTION
- ACCUSATION
- POLEMICAL
- INSTRUMENTAL
- THEORETICAL

Evolution of the use of the notion of innovation

Then in the twentieth century, innovation became a word of praise. It came to be considered a source of progress, political, social and material. To be sure, such a discourse began in the decades following the French Revolution. What was called "dangerous innovation" before, like revolution, became a "happy innovation", a key phrase to Auguste Comte. The latter makes a contrast that became very popular later. In his *Cours de philosophie positive* (1839), Comte contrasts "esprit de conservation" [the spirit of conservation] to "esprit d'innovation" [the spirit of innovation] as two fundamental instincts, and explains social progress as the result of the latter. Yet a complete rehabilitation of the concept of innovation had to wait until the twentieth century, thanks to or because of engineers, practitioners and policy-makers, seconded by economists. The view of the seventeenth and eighteenth centuries was eminently conservative. There was no question of progress. Then, after a long period of conflict, a new conception emerged. The qualities that were denounced as social vices emerged as moral virtues. In the name of economic growth, technological innovation became instrumental to economic policy. *"There is little doubt",* stated the OECD in one of the first titles on technological innovation ever produced in the Western world (Government and Technical Innovation, 1966): *"that if governments succeed in helping to increase the pace of technical innovation, it will facilitate structural changes in the economy, and increase the supply of new and improved products necessary for Member Governments to achieve rapid economic growth and full employment and without inflation".*

Religion, or rather a new kind of 'religion', remains in the background here. The concept of innovation diffused widely because of the context of the Reformation. Now innovation is THE modern belief or faith, as the OECD Innovation Strategy (2010) and the Europe 2020 strategy proclaim (2010):

"Most current social, economic and environmental challenges require creative solutions based on innovation and technological advance." (OECD)

"Innovation is our best means of successfully tackling major societal challenges, such as climate change, energy and resources scarcity, health and ageing, which are becoming more urgent by the day." (European Commission)

FROM INNOVATE TO WHAT KINDS

After World War II, technological innovation was studied as a fact of life, and was promoted to individuals (e.g. farmers), organizations (particularly firms and industries), and then whole nations. The concept gave rise to a growing literature concerned with firm strategies and public policies for innovation, in management, economics, research policy and sociology. Innovation acquired a new meaning here: the commercialization of inventions or new goods embodying knowledge or research and development (R&D). In the name of economic growth, innovation became a matter of market. Technological innovation is the commercialization of new products for the customer. Economic growth is no longer explained mainly by industrial processes as source of productivity (technological change), but by firms' capacity to invent and sell new products.

Starting around 1980, a series of criticisms appeared that questioned the dominant idea of innovation as being concerned principally or even entirely with the market, or technology and industry. New terms began to appear that argued for a different kind of innovation. As Geoff Mulgan from NESTA put it recently: "The big question now is not whether to innovate but what kinds of innovation we need" [3].

I call these new terms X-innovation – a semantic pluralization of forms or kinds of innovation. Scholars began theorizing about X-innovation in the 1950s-60s. At that time, X-innovation was concerned with an object, like technology, industry, organization or education. In a second step, namely c.1980s-90s, new forms appeared that define innovation with adjectives: disruptive, open, frugal, responsible and sustainable. Certainly, adjectives existed for a long time in typologies of technological innovation: 1. major, revolutionary, radical, paradigmatic, systemic; 2. minor, incremental. However, now an adjective rather than an object defines what innovation is. This has to do with the 'quality' of innovation: we need a different type of innovation. Two characteristics define the newest kinds of X-innovation. Firstly, the societal in X-innovation. On one hand, namely on the input side (the process) X-innovation emphasizes inclusion, namely the participation of the public in the deliberations about innovation, from an early stage and in the decision process. Hence, we have X-innovation forms like inclusive innovation, democratic innovation and free innovation. On the other hand (the outcome), X-innovation places the emphasis on societal, ethical and environmental considerations. There is a moral imperative here. Innovation must be social, responsible and sustainable.

Social innovation is the oldest of these terms, which originates from the mid-nineteenth century. At the time it was contested, as was the concept of innovation. To some, social innovation was socialism and was subversive of the

social order. In 1888, a popular edition of the Encyclopedia Britannica included a long article on communism, which begins as follows: *"Communism is the name given to the schemes of social innovation which have for their starting point the attempted overthrow of the institution of private property"*. To others, social innovation was much needed. Among these others are reformers of a different kind than religious reformers, namely social reformers like Jeremy Bentham, Auguste Comte and the French socialists (Claude-Henri Saint-Simon, Charles Fourier) and their followers (Victor Considérant, John Patterson). Socialism was to many the 'new spiritual power' in post-revolutionary France and elsewhere in the Western world. The concept of social innovation served this "new Christianism", as Saint-Simon called it.

Social innovation as a term re-emerged (in a positive light) in the last 20 years as a reaction to technological innovation and to hegemonic discourses on industrial innovation. As "new ideas that work to meet pressing unmet needs and improve people's lives", to use Mulgan's definition, social innovation is a counter-concept to technological innovation. Social innovation came to mean alternatives to established solutions to social problems or needs, that is, alternatives to industrial innovation and state or government-supported social reform. In this sense, residues of the nineteenth century's concept of social innovation as socialism are still inherent in the theories. To many scholars, the term is situated within a left-wing ideology, either explicitly or implicitly. Social innovations favor (or should favor, to be so named) the non-institutional, the 'alternative' and the 'marginal'. Furthermore, the 'community' and non-profit organizations are favored sources of social innovation and the focus of many studies. Autonomy, liberty, democracy, solidarity and liberation are key words that came into use in theories on social innovation. Social innovation is "democratic, citizen- or community-oriented and user-friendly"; it assigns significance to what is "personalized, small, holistic and sustainable"; its methods are diverse, not restricted to standard science, and include "open innovation, user participation, cafés, ethnography, action research", etc.

Historically, social innovation is a further development of (and a reaction to) the concept of innovation as a pejorative category. One hundred and fifty years ago, it served to make a contrast to, and a distinction between, other types of innovation. It emphasized something. To early critics, the purpose of 'innovation' in 'social innovation' was to equate 'social' or societal novelty (socialism) to innovation, and to label it as a pejorative category. To others, the 'social' in 'social innovation' was to contrast it to other types of innovation or to qualify the innovation: social innovation is innovation of a public or participative nature. It is distributive and good. To most writers, the distinction is moral. This rhetorical practice has not changed very much today. The 'innovation' in social innovation serves to put (more) innovation into the social. The 'social' of social innovation serves to put (more) social into innovation.

X - INNOVATION

Oldest (an object)	Newest (an adjective/ a metaphor)
Technological innovation*	Inclusive innovation
Product/process innovation	User innovation
Industrial innovation	Free innovation
Marketing innovation	Democratic innovation
Organizational innovation	Common innovation / Open innovation
Educational innovation	Hidden innovation
Political innovation	Disruptive innovation
Social innovation*	Reverse innovation
*Another word used in place of 'innovation' in these terms is 'change'	Frugal innovation
	Jugaad innovation
	Responsible innovation
	Sustainable innovation
	Grassroots innovation
	Eco-innovation

X-innovation – a semantic pluralization of forms or kinds of innovation

> **The 'innovation' in social innovation serves to put (more) innovation into the social. The 'social' of social innovation serves to put (more) social into innovation.**

CONCLUSION

I trace the history of the term social innovation as a two-step process, firstly as an appropriation (extension or application) of the concept of innovation, and secondly as a contestation of that concept. There is a third step to consider: critical innovation.

X-innovation terms emerged as a critique of the dominant framework or paradigm of innovation: the economic or market connotation. Yet innovation itself, whether social, sustainable or responsible, remains uncontested. Innovation is an a priori solution to social problems, to every social problem. Our worldview spontaneously suggests technological solutions, without any need to inquire seriously into the real problems of society. Such is the case with environment. Innovation is a panacea. But is innovation really the solution to environmental problems, to poverty, to literacy and education, to welfare? 'Social needs' (often called 'demand'), a major concept of innovation in the 1960s, has almost disappeared from view today. Supply (innovation) is the main focus of studies. Even where need takes first place, as in theories of social innovation, innovation (supply) is always the ultimate solution. Innovation as an object of study has an autonomous status.

As scholars of innovation, we have to learn to be more critical and more reflective about our objects of study. We espouse "sympathy" for innovation, to use Howard Becker's word [4], or what sociologist Everett Rogers calls a "pro-innovation bias": innovations "are good and should be adopted by everyone" [5]. Max Weber thought that a distinction between facts and values should guide scholarship. Today, we know that the moral is inevitable in social research. What is important is to be aware of it, to be critical and reflective. Currently, we are writing narratives in the form, or under the name, of theory.

Being critical means:
- Taking seriously the scholarly imperative to discuss, argue and criticize.
- Questioning our representation of innovation, especially when it is called an 'alternative' representation, and asking to what extent our assumptions are normative and performative.
- Placing innovation as a solution into balance with other possible (but less fashionable) means to achieve 'progress'. Innovation may appear to not always be the best solution.
- Asking whether we are writing a piece of academic work as a scholar or an ideologue (in scholarly journals).

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RETHINKING INNOVATION: SOCIAL INNOVATION AS IMPORTANT PART OF A NEW INNOVATION PARADIGM

The concept of innovation has become more and more important for societies to cope with the great societal challenges, while technological innovation encounters limitations in resolving them. To understand the variety and diversity of innovations in society and to cope with the challenges we need a new understanding of innovation focusing on social innovation and the capacity of the whole society.

Jürgen Howaldt

INTRODUCTION

Although there is widespread recognition of the need for innovation and a long history of academic debate, there is no clear understanding of how innovation leads to a sustainable and inclusive society. "To find a way to bring together the triple objectives of smart innovation-led growth, inclusion and sustainability, we must first answer the critical question of how to direct innovation to solve the pressing global challenges of our time" [1, p. 2]. For most of the challenges summarised in the Sustainable Development Goals of the UN there are no pure technological innovations available. To cope with the great societal challenges a new understanding of innovation focusing on social innovation and the innovation capacity of the whole society is indispensable. Against this background, the article traces the emergence of a New Innovation Paradigm as a basic condition for a mission-oriented innovation policy.
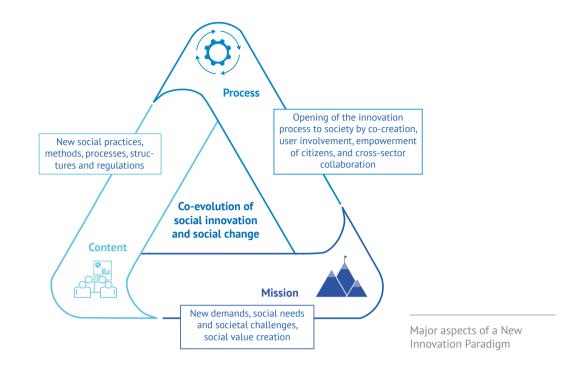
SCIENCE, THE ENDLESS FRONTIERS

The idea that innovation should help societies to cope with societal challenges and lead to growth and social welfare formed the starting point of modern innovation policy. More than seventy years ago, Vannevar Bush, in his report to President Roosevelt, directed the pioneering spirit of the US towards exploring the "endless frontiers" of natural science research, hoping that this would promote social welfare: "*The Government should accept new responsibilities for promoting the flow of new scientific knowledge and the development of scientific talent in our youth. These responsibilities are the proper concern of the Government, for they vitally affect our health, our jobs, and our national security. It is in keeping*

also with basic United States policy that the Government should foster the opening of new frontiers and this is the modern way to do it" [2, para. 17].

These ideas where strongly connected with Schumpeter's Economic Theory in which innovation plays an important role for understanding the dynamics of the economic system. 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. Introducing and realising innovations is considered the actual work and function of the entrepreneur. Schumpeter focuses not only on technical innovation, but also distinguishes between product-related, procedural, and organisational innovations, using new resources, and tapping new markets. Moreover, he underscores the necessity of social innovation occurring in tandem in both 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.

Influenced by the works of Schumpeter, the concept of innovation was increasingly reduced to technological innovations. Remarks on social innovation in literature after Schumpeter are scarce and marginal. Innovation research in the social sciences has been dedicated, by contrast, primarily to the relevance of innovation's social framework conditions. The central focus is 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

Process

New social practices, methods, processes, structures and regulations

Opening of the innovation process to society by co-creation, user involvement, empowerment of citizens, and cross-sector collaboration

Co-evolution of social innovation and social change

Content

Mission

New demands, social needs and societal challenges, social value creation

Major aspects of a New Innovation Paradigm

institutional context and the interaction between those involved in the process of innovation. Innovation research in the social sciences has made great contributions to the development and spread of an enlightened sociological understanding of innovation. Its interpretative possibilities have become widely and 'successfully' practical. However, the belief in the central role of science and technologies is still the basis for the contemporary innovation policies and large areas of innovation research.

THE EMERGENCE OF A NEW INNOVATION PARADIGM

In recent years, there has been a growing realisation that innovation policy is falling short of its potential to address the multiple globally derived challenges that affect contemporary and future societies. However, attempts to address these challenges through innovation demand an understanding of 'the new nature of innovation', including the changing role of technologies [3]. These challenges are not only grand in scope and scale, but also complex, made up of wicked problems. To better understand the variety and diversity of innovations in society and to cope with the great societal challenges we need a broader concept of innovation or a New Innovation Paradigm [4].

In that spirit, international innovation research provides numerous indications of a fundamental shift in the innovation paradigm. New economic sectors and industries increasingly determine the look of the economy and society and are changing the modes of production and innovation. Challenges such as social inclusion or climate change entail social demands and action, for which traditional ways, in which markets, states and civil society responded so far, are no

longer sufficient. At the same time, technological innovation encounters limitations when it comes to resolving pressing societal challenges.

> In recent years, there has been a growing realisation that innovation policy is falling short of its potential to address the multiple globally derived challenges that affect contemporary and future societies.

This New Innovation Paradigm is characterised by three major aspects, which are closely interlinked and benefit from each other:

1. its orientation towards the major societal challenges which find practical expression in a mission-oriented innovation policy,
2. a stronger recognition of non-technological innovations geared at changing social practices, and
3. innovation processes opening up to society.

1. ORIENTATION TOWARDS THE MAJOR SOCIETAL CHALLENGES

Since the beginning of the 1990s, innovation policy in the European Union is more and more oriented to the major societal challenges. For many years, innovation policy had been directed to technological innovation that promotes

economic growth and increases the competitiveness of the national economy. However, in recent years large parts of the European research programmes as well as the German Hightech Strategy have been structured in accordance with the major societal challenges. "*Mission-oriented policies can be defined as systemic public policies that draw on frontier knowledge to attain specific goals ... Missions provide a solution, an opportunity, and an approach to address the numerous challenges that people face in their daily lives. Whether that be to have clean air to breathe in congested cities, to live a healthy and independent life at all ages, to have access to digital technologies that improve public services, or to have better and cheaper treatment of diseases like cancer or obesity that continue to affect billions of people across the globe. To engage research and innovation in meeting such challenges, a clear direction must be given, while also enabling bottom-up solutions*" [1, p. 4].
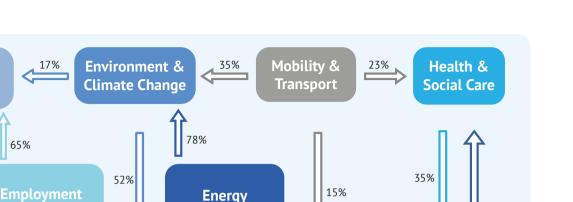
The SDGs of the UN constitute a more and more important point of reference and inspiration for a mission-oriented innovation policy building a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. A closer look reveals the complexity and social embeddedness of these goals. For many of them pure technological solutions are not available. To meet the ambitious challenges expressed in the SDGs, we need a broader understanding of innovation beyond the traditional focus on Science and Technology.

In the face of the depth and development of change in modern societies and the rising dysfunction in established practice, social innovations are gaining greater importance, also in terms of economic factors, over technological innovations. They are not only necessary, but can also contribute proactively to anticipated macro-trends, such as demographic developments or the effects of climate change to modify, or even transform, existing ways of life.

> **To meet the ambitious challenges expressed in the SDGs, we need a broader understanding of innovation beyond the traditional focus on Science and Technology.**

Sustainable Development Goals

Social innovation related policy fields

2. FOCUS ON SOCIAL INNOVATION

Since the publication of the oft-cited Meadows report on the state of humanity at the Club of Rome [6], if not earlier, there has been discussion on the limits of permanent and exponential growth in a confined system and the considerable role technological development has played in this context. Explicitly assuming a non-oppositional stance towards technology, Meadows suggested that the use of technological measures did not solve the world's central problems, but tended to intensify them. Furthermore, he highlighted, that unforeseeable social side effects and new social problems were generally associated with even very useful new technologies and that no technical answers existed whatsoever for the most significant problems in the modern world. For solving these extensive "social changes", or rather "non-technological measures", were needed [5, p. 140].

This prompted a discussion regarding the necessity of a different way of life and a different economy, particularly in affluent industrial economies. Many governmental and nongovernmental organisations from around the world participated in this discussion in Rio de Janeiro, at the 1992 UN Conference on Environment and Development. Agenda 21, the key document that was adopted, laid out an agenda for a departure from a purely technology-driven growth dynamic. It also stated objectives for an alternative form of development that was ecologically, socially, and economically sustainable. In this context, the term social innovation consciously extends beyond the term reform that focuses primarily on action undertaken by the state. The latter are components of social innovations that can be seen on a political level as well as every other social arena where they are also increasingly called for and realized.

Similar to the European Commission, many governments of European Member States, other states (e.g. Australia, Canada, China, Colombia, New Zealand, USA) and UN Organisations, acknowledge social innovation as essential to ameliorate future innovation policies. The global mapping conducted as part of the SI-DRIVE project [6] uncovers countless approaches and successful initiatives that illustrate the strengths and potentials of social innovations in the manifold areas of 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 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.

3. INNOVATION PROCESSES OPENING UP TO SOCIETY

Moulaert et al. emphasize that social innovation means innovation in social relations: "*As such we see the term as referring not just to particular actions, but also to the mobilization-participation process and to the outcome of actions which lead to improvements in social relations, structures of governance, greater collective empowerment, and so on*" [7, p. 2]. With innovation processes opening up to society, companies, technical schools, and research institutes are no longer the only relevant agents in the process of innovation. Citizens and customers no longer serve as suppliers for information about their needs (as in traditional innovation management); they contribute to the process of developing new products to solve problems. Terms and

concepts such as open innovation, customer integration, and networks reflect individual 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 [3].

Thus, social innovations need to mobilise citizens to take an active part in innovation processes and thereby enhance society's generic innovative capacity [8]. This requires new models of governance in favour of self-organisation and political participation, allowing sometimes unexpected results through the involvement of stakeholders. This also requires interplay between actors, their networks, policy makers, and the market on the one side, and processes in support of scaling-up and diffusion on the other. This shift in perspective towards social innovation directs the focus to the experimental shaping of social learning processes, to mechanisms of imitation, and hence, to non-linear, non-sequential forms of diffusion, institutionalisation and routines.

> **Social innovations need to mobilise citizens to take an active part in innovation processes and thereby enhance society's generic innovative capacity.**

CONCLUSION

To better understand the variety and diversity of innovations in society and to cope with the great societal challenges we need a broader concept of innovation or a New Innovation Paradigm. This is the foundation for a mission-oriented innovation policy exploiting the potential of social innovation and enhancing the innovation potential of the whole society. Just as the conditions to explore the potentials of the natural sciences and to make them usable for society were created through a systematic innovation policy in the middle of the last century, at the beginning of the 21st century we need just as great a pioneering spirit in search for new social practices that enable us to secure the future and allow people to live a richer and more fulfilled human life.

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TRANSFORMATIVE INNOVATION POLICY & SOCIAL INNOVATION

Transformative Innovation Policy brings together social innovation and technical innovation to address the systemic challenges that most affect us today.

Johan Schot / Alejandra Boni / Matias Ramirez / Carla Alvial-Palavicino

INTRODUCTION

Practitioners of social innovation are familiar with ideas of social change and radical transformation. Yet, such ideas are less common in the world of innovation policy. In the world of policy makers, science and technology and social innovation are often seen as two different domains, the former delegated to economic and higher education policy, and the latter to development and social policy. Transformative Innovation Policy (TIP) is a perspective that brings together these two worlds, the social and the technical, into concepts and practices for transformation. This socio-technical perspective acknowledges that current societal challenges, such as climate change, inequality and migration, are systemic problems that cannot be solved only by technological intervention. Nevertheless, science and technology are crucial for system transformation as they provide an imaginary for a future and a repertoire of possibilities.

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This understanding implies that a change is required in the way we conceptualize and conduct science, technology and innovation (STI) policy, beyond simple notions of economic growth or the pursuit of pure science. The endeavor of Transformative Innovation Policy is to provide such a framework, starting from the acknowledgement that in the context of complex problems, such as those embodied in the Sustainable Development Goals (SDGs), there are no miracle one-fits-all solutions. Such a framework builds on the possibility of alternative futures, the non-neutral nature of technology, the transformative potential of citizen movements, firms, governments and knowledge organizations, co-construction and the needs, dreams and desires of users and non-users.

THE THREE FRAMES OF INNOVATION POLICY

Science, technology and innovation (STI) has played a central role in the development of the world as we know it today. Especially after WWII, STI policy became a concern for governments as a driver of growth, development and wellbeing. Yet, as we know today, technology and innovation have also become a part of the problem. To understand how STI policy can contribute to transformation, we need to understand the logics behind it.

We distinguish three frames of STI policy [1, 2]. Frame 1 or 'Innovation for Growth' emerged in the post-war period, stressing the benefits of science and technological change to the economy. In an epoch in which the massification of new technologies, such as the car, television, washing machine and passenger airlines, brought enormous changes to the lives of ordinary people in the West, policy makers became concerned about the role of the public sector in supporting these life-changing inventions. These innovations, which in the language of economists constitute a public good, suffered from 'market failures', that is, the inadequacy of the market to support their development at the level and quantities desired, hence requiring state intervention. This frame, also known as the linear model of innovation, reflects a time of rapid economic growth and technological development, a modernist belief in the inevitability of progress, and the notion that unintended consequences such as pollution can be dealt with by means of more science and technological development and regulation.
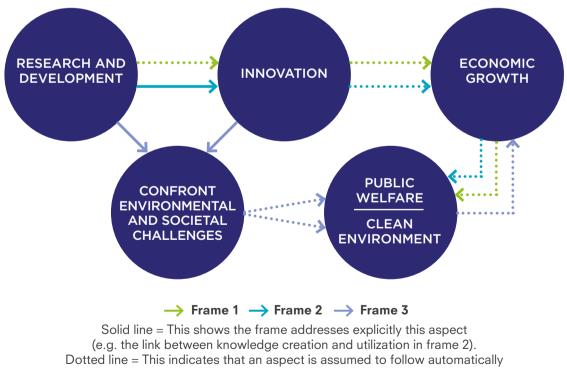
Frame 2, or 'National Systems of Innovation', emerged in a context of growing international competition, marked by economic shocks such as the 1970s oil crisis. Analysts started to recognize that knowledge transfer was difficult, and there were tacit and organizational components not accounted for before. Following the emergence of Japan and Korea into knowledge economies, this new frame brought attention to the different paths that countries and regions followed in the constitution of innovation systems, characterized by systems and institutions that support learning, capacity building and entrepreneurship. This frame led a move from a linear view of innovation to a more systemic one.

Frame 3 is what we call 'Transformative Innovation Policy'. For more than a decade the question of how to align STI policies with existing societal and global challenges has been discussed. This frame takes environmental and social challenges as the central component of STI policy, questioning assumptions about the neutrality of technological innovation. It starts from the question, what needs to be transformed in order to achieve these challenges? We argue that the socio-technical systems that fulfill basic needs, such as energy, mobility, food, water and communications, need to have a fundamental shift in order to become truly sustainable. This is different from what

constitutes a mere system optimization, e.g. improvements in agricultural yields. Changes that are needed involve infrastructures, such as food supply systems, and cultural norms and practices, such as what we consider a healthy diet. Hence, this frame brings the attention to the direction of innovation, namely the different social and political choices embedded in technological choices.

These three frames co-exist in STI policies, and each of them fulfills an important role. Yet, more emphasis on frame 3 is required for innovation to play a prominent role in finding solutions to global challenges.

TRANSFORMATIVE INNOVATION IS ABOUT SYSTEMS CHANGE

As social innovation is concerned with social change, transformative innovation policy integrates the concern for social change into a transformative perspective. It focuses on transformation of what is called socio-technical systems in the sustainability transitions literature. These are complex systems composed of aligned technologies, knowledge, infrastructure, markets, governance and regulation, culture, and industry structures that interact, mutually re-enforce

Frame 1 → Frame 2 → Frame 3

Solid line = This shows the frame addresses explicitly this aspect
(e.g. the link between knowledge creation and utilization in frame 2).
Dotted line = This indicates that an aspect is assumed to follow automatically
(e.g the utilization of the results of basic scientific research by industries in frame 1).

Logics behind three frames of innovation policy

each other and co-evolve (see the infographic for the energy system, but similar ones could be made for food, mobility, healthcare, water etc.). The OECD has recognized the importance of systems innovation for societal challenges, defining it as "a radical innovation in socio-technical systems which fulfil societal functions, entailing changes in both the components and the architecture of the systems" [3, p. 15].

> **As social innovation is concerned with social change, transformative innovation policy integrates the concern for social change into a transformative perspective.**

The literature on sustainability transitions, and in particular the multi-level perspective (MLP), provides a framework to understand how changes in socio-technical systems occur. It distinguishes three levels: niche, regime and landscape. Change emerges in spaces called niches, protected spaces for the emergence of new socio-technical systems without direct pressures from the dominant regimes. The dominant regime refers to a set of rules which drive socio-technical system change in a particular directionality, for example more centralized production. Niches often nurture a different set of emerging rules than the ones of the dominant regimes. Yet, as these are in constant fluctuation, they require some protection as the niche builds and stabilizes. The landscape refers to the exogenous environment shaping both niches

THE ENERGY SYSTEM

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The socio-technical energy system

and regimes, with pressures such as globalization, climate change, wars, natural disasters, and economic crises. Transitions in a socio-technical system are the result of interaction of events on all three levels [4].

Systemic change cannot be addressed with the same policies and instruments already in play; changes in the organizational and institutional contexts of science policy are therefore required. TIP proposes some directions for these changes.

TRANSFORMATIVE INNOVATION IS ABOUT EXPERIMENTATION, LEARNING AND INCLUSION

Frame 3 starts by acknowledging that there are no best and optimal approaches to complex problems. Therefore, it focuses on experimentation, a structured learning process informed by evidence and experience to explore potential paths and their consequences. An experiment is a series of practices, methods and objectives used to inform and facilitate processes of learning and changes in policies. It allows to test ideas at small scale and in real contexts before full implementation, without the compromises of large-scale policy intervention. Experiments can be instruments (initiatives, programs, policies, etc.) that support aspects of TIP, such as changes in learning and reflexivity, changes in expectations and the way people think about the future, and changes in the networks of actors that participate in an experiment. An example of such an experiment are the mechanisms to support the development of grassroots community energy initiatives in the search of sustainable and scalable business models [5].

These experiments require evaluations that differ from traditional evaluations of public policies. These evaluations should seek to assess the level and process of learning, if niches with transformative potential have emerged and evolved, and the type and degree of change generated by an intervention. Each evaluation develops a specific Theory of Change (ToC) for the experiment, based on an MLP perspective.

We propose six elements that help identify a policy with transformative potential. We will use the example of the socio-technical system of energy provision to illustrate these dimensions.

1. Directionality: the collective process of understanding and engaging with the multiple potential paths of development and enabling a process of critical appraisal and learning. For example, large-scale and centralized versus small-scale, distributed energy sources provide different alternatives regarding efficiency, resilience, empowerment and participation, which are not comparable under a single optimization.
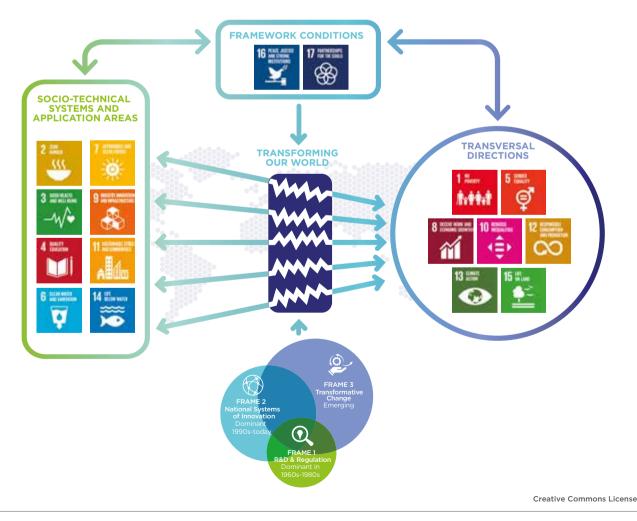
2. **Societal Goal:** the focus of the policy is in goals such as the SDGs or grand challenges. In this case, the societal challenge is to provide reliable and affordable energy in a way that is environmentally and socially sustainable.

3. **Systems-level impact:** addressing changes at the socio-technical level. A systems level perspective on energy does not only look at supply, but asks questions about how and for what we use energy, what social practices are associated to its use, and how we can do it differently.

4. **Learning and reflexivity:** promoting second order or 'deep learning', that is, learning about the mindset and assumptions embedded in dominant practices. Learning, for example, about the assumptions of efficiency and optimization embedded in our energy systems, about our notions of comfort, that shape the way we use and plan energy systems.

5. **Conflict and consensus:** different views about what is at stake in systems transformation can lead to conflict. TIP should acknowledge this conflict and include it as part of the process. Many communities might disagree with the development of hydropower or large solar infrastructures in the name of clean energy. These views should be taken into account.

6. **Inclusiveness:** including all relevant actors, such as civil society, users and marginalized communities. In the same line, discussion should not be limited only to experts, but also acknowledge that users have enormous agency in how we use energy efficiently, as well as workers and local communities.

AGENDA 2030 AND THE OPPORTUNITY FOR TRANSFORMATIVE INNOVATION POLICY

Global challenges as represented by the SDGs are a unique opportunity for systems transformation, bringing together social and technical innovation. Agenda 2030 is an urgent, inclusive and value-creating direction towards sustainability that calls for both research efforts and new policy approaches. Sustainability cannot be achieved by merely optimizing existing systems, and it should take into account the interactions and trade-offs between different objectives. The SDGs should not be considered a 'checklist', but instead should be seen as a systemic understanding of well-being, consisting of economic, social and ecological dimensions. In other words, to address the SDGs, policies should de-

A transformation innovation policy view on the SDGs

centralize them, and instead focus on the underlying transformation processes which will, if they unfold in the desired way, address the SDGs. This focus on transformation is in fact responding to the strapline of the UN Agenda 2030: Transforming our World.

To enact transformation, STI can play a key role. However, this is only possible when STI is seen as a key factor in realizing all 17 SDGs, rather than being isolated in SDG 9 industry, innovation and infrastructure (as is currently the case). True, to play this role STI policy needs to become more focused on transforming socio-technical systems towards new directionalities (and thus should take frame 3 as its main rationale). From this perspective and to implement transformative innovation policy SDGs could be grouped in three different types: (i) SDGs about socio-technical systems, such as clean energy (SDG 7) or health (SDG3), (ii) SDGs that emphasize directionality, such as SDG 10 on reduced inequalities and SDG 8 on decent work and (iii) SDGs that focus on governance, e.g. structural transformations in the state, market, civil society and our knowledge system, such as SDG 16 on peace, justice and strong institutions and SDG 17 on partnerships for the SDGs. Transformative innovation policy should then be focused on using one set of directionality-related SDGs to transform socio-technical systems related SDGs through experimental approaches which require addressing the governance related SDGs.

Transformative innovation policy provides a framework that brings together the insights of social innovation and STI policy to address challenges such as the SDGs in a more fundamental way. As an emergent approach, there is an enormous opportunity for learning and cooperation between researchers and practitioners in these fields.

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SOCIAL INNOVATION AND PUBLIC POLICY

Public policy and social innovation are both about changing resources, life chances and burdens, hopes and aspirations of people and places. Public policy stimulates social innovation in four different ways shaped by different ways of conceiving and practicing public governance and social change.

Lars Hulgård / Silvia Ferreira

INTRODUCTION

Social innovation and public policy both address social change by solving social problems and meeting social aspirations. Social innovation offers a space for interaction between government and society. There are four different ways of relating public policy to social innovation. Each way is a carrier of meanings, discourses and practices. Accordingly, they are shaped by different ways of conceiving and practicing public governance and social change. This variation is reflected in the discourses that envision social innovation as taking place with no or only little interference of government to those that conceive the enabling role of public policy and are connected to public sector innovation and democratization.

HISTORY OF PUBLIC POLICY AND SOCIAL INNOVATION

Already in 1959, Richard Titmuss, in a speech to the Fabian Society, pointed out that the welfare state, he so vigorously had supported, needed social innovation. Despite of being one of the chief architects of the universal welfare state after the Second World War, Titmuss early on saw that it catered better to those who needed it least than to those who needed it most. In the speech, he called for massive investments in social innovation. He spoke about the intrinsic relation between public policy and social innovation in a way that serves as a milestone even today: *"[T]he quality of education, housing and medical care of the poorest third of the nation calls for an immense amount of social inventiveness: for new institutional devices, new forms of co-operation, social control, ownership and administration. Social ideas may well be as important in Britain in the future as technological innovation"* [1, p. 150].

Almost 60 years have passed since Titmuss gave his speech, and the problems have only intensified requiring determined and targeted public policy for social innovation at all levels. Today, as a global citizenry, we face a complex and multi-dimensional crisis that is in an almost desperate need for sustainable answers. When looking at the workings of the conventional economic model, Joseph Stiglitz argues that it is not serving the majority of the global population. Accordingly, he even claims that economic growth as a paradigm for wealth lacks both credibility and legitimacy and thus, social innovation is as important today as technological innovation.

However, when looking at the subject of social innovation as a global phenomenon, it becomes visible that the relation between innovators and the governors of public policy was always a fundamental and transversal issue throughout the change of time and context. At its historic origin, innovation as such was largely about social innovation, and it stood in an intrinsic relation to public policy since the origin in Ancient Greece. Benoit Godin even argues, "for most of history, innovation has nothing to do with economics (technology) or with creativity. Innovation is a political concept" [2, p. 5].

> The relation between innovators and the governors of public policy was always a fundamental and transversal issue throughout the change of time and context.
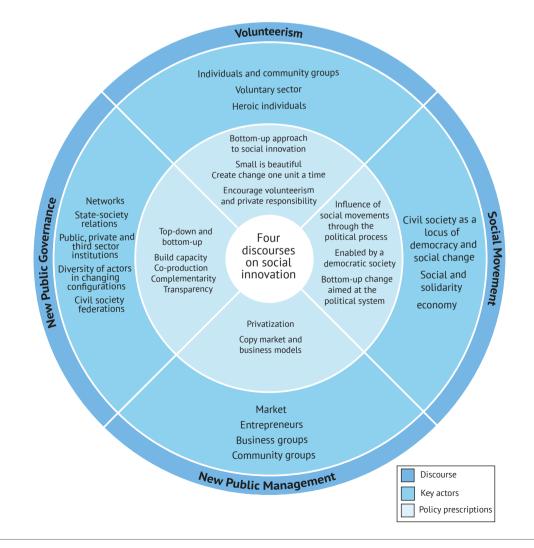
More recently, in all parts of the world, social innovation has been an object of huge policy interest. In the EU, several programs to facilitate a variety of interventions related to research, learning, urban regeneration, public procurement and rural development have been areas of institutional

interest and public concern for at least two decades. In a policy paper for the EU, Frank Moulaert and colleagues document that "most policy recommendations clearly go beyond individualistic solutions" [3, p.43]. Rather it is a transversal tendency among EU funded research projects that they recommend governments to promote socio-ecological grassroots initiatives as well as a more socially inclusive society.

FOUR DISCOURSES ON SOCIAL INNOVATION

Public policy is in essence concerned with change; change of burdens, change of life chances, change of power. Without an ambition to affect change, the notion of public policy does not make sense, and thus public policy and social innovation is intrinsically related. Consequently, public policy is never neutral in its relation to social innovation, and it makes sense to address a few of the different ways in which public policy can stimulate, influence and collaborate with social innovation. The infographic depicts four different perspectives on the public policy and social innovation relation. Obviously, such a

visualisation will never be fair to local and regional contexts of policy regimes. However, the four trajectories addressed have all been influential to the contemporary social innovation agenda that has an impact on the world of today.

THE VOLUNTEERISM DISCOURSE

The Volunteerism Discourse (VD) emphasizes the role of voluntary individual action in social innovation. It complies with the Mark I entrepreneurship model used by Joseph Schumpeter to emphasize how innovation was the act of heroic individual entrepreneurs. In accordance with the volunteerism view, policy makers claim that local action and outstanding individuals are fundamental to restoring civic engagement, local community, welfare and a fair market model. Policy prescriptions within this approach to social innovation state that change must happen one unit at a time: one child at a time, one family at a time or one local community at a time. The one-unit at a time metaphor is a guideline in the formulation of communitarian and voluntarist social innovation strategies, in which key stakeholders are

Volunteerism

Individuals and community groups
Voluntary sector
Heroic individuals

Bottom-up approach
to social innovation

Small is beautiful
Create change one unit a time

Encourage volunteerism
and private responsibility

New Public Governance

Networks
State-society relations
Public, private and third sector institutions
Diversity of actors in changing configurations
Civil society federations

Top-down and bottom-up

Build capacity
Co-production
Complementarity
Transparency

Four discourses on social innovation

Influence of social movements through the political process

Enabled by a democratic society

Bottom-up change aimed at the political system

Social Movement

Civil society as a locus of democracy and social change

Social and solidarity

economy

Privatization

Copy market and business models

Market
Entrepreneurs
Business groups
Community groups

New Public Management

	Discourse
	Key actors
	Policy prescriptions

Four discourses on public policy and social innovation

committed local community builders accompanied by concerned business groups and catalytic philanthropy for concerted action. Particularly the social entrepreneurship agenda within social innovation is a powerful symbol of the voluntary act. "I" is the start of innovation, when social entrepreneurs claim, "I can bring Africa out poverty in 15 years", or "I will create one million workplaces for people with autism". In the VD, social innovation emerges, when strong individuals engage in change for a social purpose, as suggested by Pamela Hartigan, former CEO of the Schwab Foundation, when she argued that a social entrepreneur is what you get when you cross Richard Branson with Mother Teresa.

The state, or government sector, is the only societal sphere that seems to be out of business in the volunteerism approach to social innovation. In this discourse, the role of public sector is at best to act as a humble, responsive servant to the private enterprise of individuals.

THE SOCIAL MOVEMENT DISCOURSE

The Social Movement Discourse (SMD) on social innovation is partially related to the volunteerism (communitarian) discourse, as it embraces agents from civil society as crucial for social change. The SMD precedes the recent interest on social innovation and it remains an important part of a public-policy making framework. Social movements have impact on legislation and the fight for rights and in society by changing cultural codes [4]. The project TRANSIT – Transformative Social Innovation – gives a relevant place to counter-narratives and counter-movements in transformative social change. Social movements have influenced the welfare state innovations, particularly since the 1970s in issues such as disability, gender equality, racism, but also in issues related to the participation of users in the definition and delivery of welfare services, as found in the institutionalization of social enterprises in Europe. Third sector organizations are a public policy innovator through their role in experimentation, demonstration, advocacy and participation in the policy process. In the project WILCO – Social Innovations for Social Cohesion – social innovation by local communities and organizations require the action of state actors and public administration in order to be scaled.

In SMD, social innovation emerges from social movements, civil society and community organizations, while the role of public policy is to create the conditions for a flourishing civil society and active citizenship and to scale these social innovations. One eloquent example dating back to the XIX-XX centuries is the invention of social insurance by workers mutual societies, which inspired national public social security systems. The Civil Rights Movement in the USA is another important example of a rights-oriented social innovation targeting public policy. When Rosa Parks in December 1955 decided to refuse to take her assigned seat in a bus in Montgomery, USA, she was active in a civil rights movement integrating a variety of objectives and means in a struggle for civil and political rights. Accordingly, the iconic photo of Rosa Parks, the determined individual, in the bus, only makes justice to history when related to another photo of her together with other prominent members of the civil rights movement, such as Pete Seeger and Martin Luther King gathered at Highlander Folk School in Tennessee.

Another more recent example of movement-led social innovation in public policy is the case of the National Secretary of Solidarity Economy, led by Paul Singer, himself a scholar and an activist in the solidarity economy movement. In collaboration with the movement, he promoted a wide range of public policies to foster the Solidarity Economy in Brazil.

THE NEW PUBLIC MANAGEMENT DISCOURSE

In New Public Management Discourse (NPMD), social innovation and public sector innovation happens through bringing in private sector practices and market rationality to the public and civil society sectors. The public sector, with its bureaucratic structure, hierarchical decision-making process, standardized solution, heavy auditing and accountability processes and lack of individual career rewards is considered a hindrance to social innovation. Thus, the model for innovation is that of business and commercial innovation. Social innovation is the utility function of new services and activities responding to a social need or problem better than existing solutions. Innovation may happen by bringing in internal competition in public services, quasi-markets, contracting out to the private and third sectors, choice by citizen-clients. Public sector and the third sector leaders must learn from business management. Within this perspective, the technological and business innovation frameworks are often imported into social innovation planning and tools, like the cycle of social innovation, that allow to conceive the process of social innovation from emergence to systemic change through scaling. Thus, social innovation is a planned process along a set of stages within an induced and supportive social innovation ecosystem. Public policies to promote social innovation include those that can enhance competition between providers, supporting social innovation ecosystems, including new funding sources inspired by market tools and agents, such as Social Impact Bonds. One example of public policy promoting this model is the pilot Portugal – Social Innovation, an EU funded program, which aims at developing a social investment market to generate and sustain social innovation to solve social problems. Within this perspective, social innovation is blurring boundaries between institutional logics in the sense that business and commercial models inspire the public and social sectors. In turn, commercial businesses are considered to be concerned with social problems and social responsibility.

THE NEW PUBLIC GOVERNANCE DISCOURSE

This discourse stresses a complex relationship between state, market and civil society aimed at reinforcing partnership and network-based social innovation across sectoral divides. The New Public Governance Discourse (NPGD) is rooted in institutional and network theory and notions of the pluralist state. Instead of giving up the state as a generator of social innovation, this perspective aims at reforming the state towards shared governance through inter-organizational networks [5]. Accordingly, network governance affects the organizational divide within the public sector. Social innovation is the outcome of the meeting and mix between actors of the different sectors. This form of governance has many names and shapes involving multi and cross-sector public governance (network governance, joined up government, whole-of-government). ICT and co-creation with end users are drivers of public innovation. In cross-sectoral network governance, the public sector plays the role of primus inter pares and of enabler of governance and innovation. The arguments in favor of New Public Governance itself include its capacity to promote social innovation. From a complexity perspective, it is argued that problems are multidimensional and complex, and to find and implement solutions to these problems knowledge, skills and competencies of public, nonprofit and for-profit sector agents and citizens and communities are necessary. Public policies promoting social innovation through shared governance have been prominent, often focusing on integrated territorial development. Since the mid-1990s, many countries experimented with governance through partnerships in areas such as education, social welfare, environment and local development [6[. The EU EQUAL Initiative was particularly oriented to promote social innovation in Europe, with patient funding requiring work in cross-sectoral and multidisciplinary partnerships.

Social innovation is ultimately a change in power relations since the problems we are aiming at overcoming are anchored in existing institutional practices.

CONCLUSION

Public policy is a dynamic activity. It is about change. Following the classical thinking of Richard Titmuss, public policy is about changing resources, life chances, burdens, hopes and aspirations of people and places. Public policy aimed at generating welfare and wellbeing for citizens is difficult to imagine without such a dynamic approach to change. This is an important parallel to social innovation. However, public policy affects social innovations in at least four different ways as highlighted in this chapter. We find all four strategies present at the same time in most countries. When public policy engages in social innovation it is crucial that partners and collaborators from other societal domains and sectors emphasize the processual aspect as much as the final product, and conceive participation as part of the process of empowering people. In this regard, the NPG discourse shares with the SMD the idea that social innovations emerge through participatory processes in society. Social innovation is ultimately a change in power relations since the problems we are aiming at overcoming are anchored in existing institutional practices.

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PLURALITY AND EFFECTS OF THE SHARING ECONOMY

The sharing economy is polarizing. It is time to move beyond debates on the 'true nature' of the sharing economy and embrace its plurality. The sharing economy is made of for-profit and non-profit organizations that interact in various markets and host diverse online communities. What is more important is to assess the effects of the sharing economy for society, policy, and the economy.

Johanna Mair / Georg Reischauer

INTRODUCTION

The sharing economy is booming. Markets for ride-sharing, home-sharing, and crowdfunding have emerged worldwide and are home to by now well-known organizations such as Uber (ride-sharing), Airbnb (home-sharing), and Kickstarter (crowdfunding). The broader public took notice of this boom. A key driver of this interest is the widely shared belief that the sharing economy not only affects the economy but also social life, both in positive and negative ways. For some the sharing economy represents a driver of positive social change as it enables collaborative consumption and collaborative production that is hoped to lead to a more sustainable economy and a more inclusive society. For others it undermines key features of a social economy as it calls into question established ways of organizing labor by prioritizing flexibility at the expense of long-term relationships. In addition, concerns about commercialization of the private domain have been raised, pointing to the sharing economy as covert form of capitalist exploitation.

The debates about the 'true nature' of the sharing economy go on. Albeit important, they miss a key feature of the sharing economy: its plurality. For-profit and non-profit organizations coexist and interact in various domains. They also host a diverse set of online communities. In addition,

> **The sharing economy refers to a web of markets in which individuals use various forms of compensation to transact the redistribution of and access to resources, mediated by a digital platform operated by an organization.**

consequences of the sharing economy are felt at different levels and in different spheres. We need to attend to this plurality that characterizes the sharing economy to enhance our knowledge base and inform decision making. Before we elaborate on plurality inherent in the sharing economy and its consequences for society we need to clarify the contours of sharing economy.

THE SHARING ECONOMY

While the idea of sharing is old, the sharing economy is not. Precursors of now well-known organizations commonly associated with the sharing economy such as Uber, Airbnb or Kickstarter were eBay, Craigslist, and Kozmo. The sharp rise of the sharing economy in recent years can be seen as consequence of the combination of digital technologies such as mass-market smartphones, extensive coverage of high-speed wireless broadband, and trust-enabling systems such as rankings and social networks. [1]

What is the sharing economy? The sharing economy refers to a web of markets in which individuals use various forms of compensation to transact the redistribution of and access to resources, mediated by a digital platform operated by an organization. As this definition showcases, the sharing economy is in some ways similar with what can be called the traditional economy – an economy in which firms produce goods and services they then sell. Both economic domains foresee some kind of market as locus of transactions. However, there are also striking differences. The traditional economy is broader with respect to transaction focus, transaction partners, as well as transaction infrastructure and infrastructure provider. On contrast, the sharing economy provides the opportunity for a broader range of compensation forms, not only payment. The table provides a summary of key similarities and differences between the sharing economy and traditional economy. [2]

Comparative dimension	Sharing economy	Traditional economy
Forms of compensation used in transactions	Various (bartering, trading, gift giving, payment)	One (payment)
Transaction locus	Markets	Markets
Transaction focus	Redistribution of and access to resources	Production, distribution of, and access to resources
Transaction partners	Individuals	Organizations, individuals
Transaction infrastructure and infrastructure provider	Digital platforms operated by organizations	Distribution channels between organizations and individuals, digital platforms operated by organizations

Stylized comparison between sharing economy and traditional economy [2]

PLURAL SHARING ECONOMY MARKETS

While the sharing economy is in parts different from the traditional economy, we would be wrong to speak of 'the' sharing economy as a homogenous economic domain. In fact, we witness a plurality of sharing economy markets. The research project 'i-share' funded by the German Federal Ministry of Education and Research provides evidence for this argument. The goals of i-share include a systematic comparison of different business models in the sharing economy, an analysis of their positive and negative impacts, and an estimation of the current and future societal contribution of the sharing economy. Important for the argument laid out here, i-share provides a first attempt to map markets in the German sharing economy. The results – accessible online (www.i-share-economy.org/atlas) – showcase the plurality of sharing economy markets. The sharing economy in Germany encompasses markets dedicated to, for example, sharing of mobility, clothes, items, money, craft shops, and food. The figure provides an example of the sharing economy in Germany as of 2018.

PLURAL SHARING ECONOMY ORGANIZATIONS
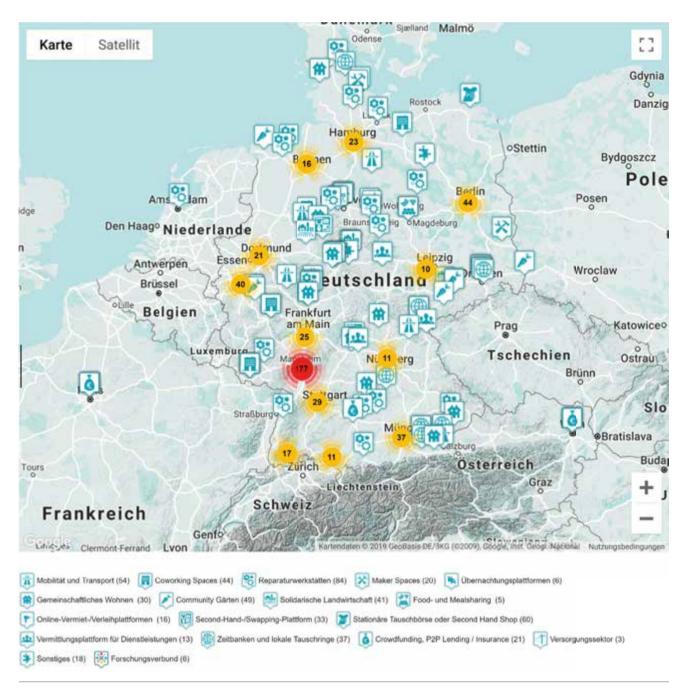
Besides a plurality in terms of markets, the sharing economy is also characterized by organizational plurality. More specifically, we witness a plurality of organizational forms and of organizational practices in the sharing economy. Across nations, the form of sharing economy organizations especially differs with regards to whether they have a for-profit or non-profit orientation. The U.S., for example, hosts a wide range of for-profit organizations such as Airbnb and Uber. Germany, on the other hand, hosts several smaller organizations with a non-profit-orientation. Some of them, such as foodsharing, a German-based organization dedicated to saving food by sharing it, were founded explicitly to counter negative societal effects. Moreover, also a plurality of organizational practices – the shared bundle of activities with which organizations get things done – is at hand. [2] One example are the various organizational practices of sharing economy organizations to interact with the individuals that use their platform that vary because of different sources of value creation. [3] Another example are plural non-market practices, organizational practices directed at actors that are not part of a focal market. An example is the initiative 'Airbnb Citizen' launched by Airbnb as an example of such practices beyond the focal market of home-sharing. [2]

While classifications that cover both, plural forms and practices of organizations in the sharing economy are yet scarce, it is helpful to consider a recent classification of the form of for-profit organizations to illustrate our argument. This classification uses two dimensions, types of transactions and types of resources. Transactions can be money-based or not based on money. The former sub-dimension can be further specified by considering if a monetary remuneration covers costs or creates additional income. In addition to this dimension, it is important to consider the dimension of key types of resources that are shared in the sharing economy. In this respect, it is useful to distinguish between physical resources such as cars, houses, or food on the one hand as well as human resources and their skills, time, and talents on the other hand. Crossing these dimensions provides a classification of sharing economy organizations as shown in the table on the typology. [4]

PLURAL ONLINE COMMUNITIES IN THE SHARING ECONOMY

Another plurality in the sharing economy can be observed with respect to the online communities that sharing economy organizations host. An online community is the sum of individuals that interact with each other based on a digital platform. As noted above, a defining feature of sharing economy organizations is that they operate such a platform. As a consequence, each sharing economy organization by the virtue of providing a digital platform hosts an online community [3].

Atlas of German sharing economy as of 2018

		Type of resources	
		Physical resources	**Human resources**
Types of transactions	Nonmoney (free)	Couchsurfing (couch-sharing) Peerby (short-term rental of products in the neighborhood)	Sittingaround (babysitting cooperatives)
	Money based (cover costs)	BlaBlaCar (ride-sharing)	Piggybee (crowd-shipping)
	Money based (income generation)	Airbnb (short-term rental of properties) Turo (car-sharing)	Uber (ride-sharing) TaskRabbit (tasks)

Typology of for-profit sharing economy organizations [4]

Sharing economy organizations serve plural communities. Plurality here refers to offline and online communities. In contrast to communities such as those around Wikipedia that interact only online, in the sharing economy interactions regularly happen both online and offline. Thus, offline and online interactions need to be considered jointly in order to understand the dynamics of sharing and to derive implications for organizing and governing in the sharing economy. Research has examined in-depth the role of online communities as producers, especially as producers of knowledge. In the sharing economy however, participants assume multiple roles. Members of an online community do not necessarily only produce but they also offer goods and services. At the same time, they can also be the consumers of goods and services. Thus, in the sharing economy the once clearly separated roles between producer, provider, and consumer of goods and services can be changed and altered easily [5].

EFFECTS OF PLURALITY IN THE SHARING ECONOMY

The consequences of the diversity of the sharing economy, its organizations, and the online communities manifest at various levels. As we will show in the following, these effects go beyond the broad effects commonly debated and are not always restricted to the economic domain. Moreover, they include both intended and unintended consequences. [2]

At the market level, researchers have emphasized two effects. First, the sharing economy triggers market changes. This is highlighted by the example of established mobility markets such as car rental markets or taxi markets that were significantly altered with the rise of ride-sharing organizations such as Uber and Lyft. [2] Specifically, the entry of sharing economy organizations into these markets may expand established markets and, if these organizations substitute offerings of incumbents, lower the performance of incumbents. [4] Second, new markets or market segments may emerge and consolidate. Specifically, markets without stable positions and involved actors tend to emerge, providing lucrative opportunities for incumbents in established markets and newcomers. A telling example is the home-sharing market that witnessed a rapid transformation from a niche market to established market as Airbnb and competitors grew at a rapid pace. [2]

In addition, at the organizational level we witness compelling effects. As noted, sharing economy organizations are an intermediator between individuals that contribute and seek resources. This structural feature causes a mutual dependence of organizations and online communities. [5] It thus comes with little surprise that organizations pay close attention on how to manage, steer, and nudge interactions between the individuals that interact and transact over the digital platforms that these organizations provide. This organizational feature that scholars have termed online community governance and in practice is known as community management is a key function of sharing economy organizations and vital for their survival. [3]

Finally, the sharing economy also affects individuals. As an autonomous provider of goods and services, an individual may enjoy higher flexibility and an elevated sense of empowerment. Moreover, individuals who so far typically were unable to participate in traditional labor markets now get the ability to access new job opportunities. In addition, the consumer side is effected by the sharing economy. Individual consumers of resources have access to a greater variety of resources at lower prices and may increase their social network. However, also for this level unintended effects can occur. Individual providers of resources can face a higher insecurity because they work on a project basis and with multiple project sponsors, not with a single employer over a longer period of time. Moreover, individual consumers of resources might experience discrimination that is tied to their socio-demographic characteristics. That is, the sharing economy in a way mirrors inequality in the 'offline world' and might not be as different after all. [4]

CONCLUSION

The sharing economy is growing – and is here to stay. While it may stand for a new form of capitalism that was dubbed the crowd-based capitalism [1], the sharing economy is as such neither 'bad' nor 'good'. It is plural and comes with intended and unintended effects on different levels that are linked to certain aspects of this plurality. To promote positive intended effects and avoid negative unintended effects, the plurality of sharing economy markets as well as forms and practices of organizations needs to be embraced. That is, we need careful consideration of which aspects out of this plurality works best in specific empirical contexts. These endeavors will be vital for promoting a sharing economy that is beneficial for society, policy, and the economy.

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SOCIAL AND BUSINESS INNOVATIONS: LINKED IN PRACTICE – BUT TWO WORLDS APART IN THEORISING?

While both business and social innovations have been studied for several decades, these two communities still live in their fiefdoms. More interactions are needed between these two 'tribes' for mutual learning. As a first step, a few lessons from business innovation studies are highlighted below.

Attila Havas

INTRODUCTION

Thorough case studies – e.g. those on social housing and fresh water supply [1, 2] – clearly indicate that in many cases social innovations can only be successful when supported by various types of business innovations, be they product, process, management, organisation, business model or market innovations. Both business and social innovations have been studied for several decades by now. Yet, these two communities still seem to live in their own fiefdoms. This review aims at stressing the need and possibilities for more interactions and exchanges between these two 'tribes'. As a first step, lessons from business innovation studies are highlighted below, indicating opportunities to refine the analytical tools and methods we use, and thus improve our understanding of social innovation processes. These insights – on the degree of novelty, level of change, the 'dark side' of innovation, policy rationales to justify interventions, and policy implications – can be useful for practitioners, social innovation scholars, policy analysts and policy-makers.

WHAT TO EXPECT FROM SOCIAL INNOVATION?

Business innovation – conducted by companies with the aim of improving performance, and thus increasing profits – has been a key issue for researchers, policy analysts, and policy-makers for decades. Although many policy-makers, journalists, natural scientists and other opinion leaders tend to think of innovation as a ground-breaking technological idea, the modern literature on business innovations is based on a different understanding. First, innovation is not an idea, but a solution introduced to the market, that is an idea with a proven practical use. Second, not only 'world class' new solutions are defined as innovations; these new solutions are distinguished by their degree of novelty: a solution can be new (1) to the firm introducing it, (2) to a given market (that is, not only to the firm introducing it, but also to a given country or region), and (3) to the world. These considerations are relevant for social innovation practitioners and policy-makers, too.

> **For social innovation practitioners and policy-makers it is also of crucial relevance to have a clear objective.**

The literature on business innovation stresses the need to identify the subject (or level) of change and has developed relevant notions to perform detailed analyses. Social innovation researchers, however, define the unit of analysis (level of change) differently, from changes at the micro through meso level to the society as a whole. (This is not to be confused with the degree of novelty.) Both for social innovation practitioners and policy-makers it is also of crucial relevance to have a clear objective as to the addressed nature of change (e.g. organisational, institutional, and/or technological), at what level.

THE 'DARK SIDE' OF INNOVATIONS

Business innovations do not always bring positive changes. The obvious examples are lock-in in inferior technological trajectories; the negative health and environmental consequences of widespread motorisation; planned obsolescence intentionally limiting the life-span of particular

consumer goods; and the so-called financial innovations introduced in the name of 'dispersing the risk', but in essence allowing a few, well-informed and well-positioned actors to gain substantial profits while putting a huge burden on society as a whole. Social innovation may also have a 'dark side'. Clearly, no society is homogenous, not even those members of it, who are marginalised and disempowered. They still have their own values and views, and thus might perceive a certain change process and its effects in different ways. Moreover, a particular policy measure or another solution that improves the situation of some groups can, in fact, affect other groups negatively – and not because they perceive it that way, but as an actual ('neutrally/objectively measurable') impact. This needs to be considered by social innovation policy-makers when devising interventions and specific policy tools.

MARKET AND SYSTEMIC FAILURES: WHY TO INTERVENE?

Economics paradigms treat business innovation in diametrically different ways. They consider different notions as crucial ones, offer diverse justifications (policy rationales) for state interventions, interpret the significance of various types of inputs, efforts, and results differently, and thus – implicitly – identify different 'targets' for measurement, monitoring and analytical purposes: what phenomena, inputs, capacities, processes, outcomes and impacts are to be measured and assessed.

Mainstream economics justifies interventions with the market failure argument in this policy domain, too. Firms invest in research and development (R&D) activities below the socially optimal level, because the results achieved by those firms that devote their own resources to generate new knowledge, without state intervention would eventually become available also for those competitors, which spare these expenses. These latter firms, in turn, would enjoy unfair advantages in market competition. This implies that a strong intellectual property rights (IPR) regime is necessary to boost private investment into R&D. This policy approach is unlikely to be appropriate to promote social innovation. Social innovators do not incline to charge licence fees for those who would like to introduce these new solutions, addressing the same or similar societal problem, in other contexts. Gaining the recognition of being a creative social innovator is likely to be a stronger driver than collecting revenues from selling IPR. Furthermore, several technologies originally developed for business purposes might be useful for social innovations. When these technological solutions are protected by IPR, opportunities for amending these to become elements of social innovations are severely restricted. Overall, social innovation policies should rather promote the dissemination and exploitation of knowledge to foster social innovation than constrain these processes.
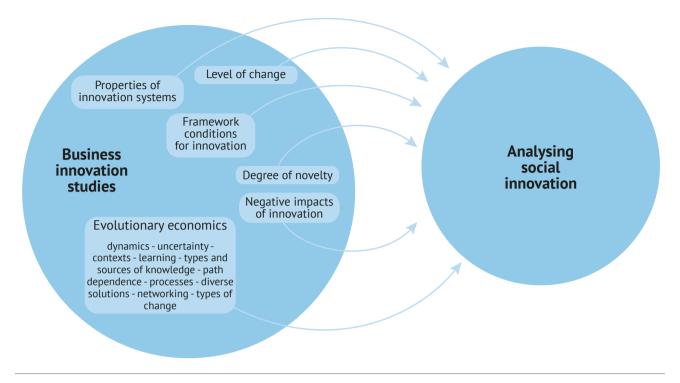
Evolutionary economics of innovation claims that the properties of an innovation system determine how knowledge is generated, diffused and exploited. Some features of the system can hamper innovation activities and thus the system failure concept postulates that there are systemic reasons behind an unsatisfactory innovation performance. It is, therefore, not sufficient just trying to 'set the incentives right'; these systemic reasons should be identified and then tackled by carefully devised policy measures. This approach can be extended to social innovation without any theoretical constraint. It is indeed a demanding task to establish what elements of an innovation system are missing or fledgling, what institutions ('rules of the game') hamper social innovations, and thus what policy actions would be appropriate to induce the necessary changes. However, these analytical efforts cannot be spared if social innovation policy-makers strive for devising effective policy measures.

Furthermore, evolutionary economics is concerned with several key notions that could be relevant when analysing social innovation: the importance of dynamics; uncertainty; differences among contexts; learning; various types, forms and sources of knowledge; path dependence; processes of generating variety; selection among diverse solutions; networking and co-operation among actors; and co-evolution of various types of changes.

Social innovations draw on various types (scientific and practical) and forms (codified and tacit) of knowledge, stemming from different sources (organised and systematic R&D activities, as well as other types of search processes, e.g. those 'informed' by practitioners). Diversity is, therefore, a key notion. To devise appropriate policy tools, policy-makers need to recognise the diversity of social innovations, in terms of their nature, drivers, objectives, actors, knowledge bases, and process characteristics.

ORCHESTRATION OF POLICIES INFLUENCING SOCIAL INNOVATION

Just as for business innovations, framework conditions for social innovations are of crucial relevance. Yet, as social innovation policy-makers cannot influence these factors, they need to orchestrate their efforts with those decision-makers, who devise policy measures that affect framework conditions for social innovation. Empowerment and capacity building are influenced by a number of policy domains, including education and culture, labour market and employment, social care and social housing, regional development, health, and taxation policies, as well as regulations on setting up and closing down businesses.

Implications of business innovation studies for the analysis of social innovation

INTERTWINED SOCIAL AND BUSINESS INNOVATIONS

It is a widely used practice in the social innovation research community to juxtapose social and technological innovations. The case of social housing, however, vividly illustrates that various types of innovations – including technological, organisational, financial, business model and market innovations – are needed to tackle the challenge of providing affordable housing at an acceptable level of comfort, achieving hygiene and safety for those in need. These types of innovations can be introduced either by the social innovators themselves or by other actors, whose main aim is to make profits. Hence, it is more fruitful to distinguish between the underlying objectives of a given innovation (addressing a societal challenge vs. making profits).

Building a large number of flats for social housing – as opposed to building palaces for the aristocrats, villas for well-off business people or just elegant flats for the better-off clients – required many different types of changes.

To sum up, social housing as a social innovation has co-evolved with a range of technological, organisational, business model, financial, and market innovations – each shaping each other. Social innovators themselves developed some of these innovations, while profit-seeking business actors introduced other ones – hence social and business innovations have co-evolved. (Providing fresh water also requires interconnected social and business innovations [2]).Using modern terminology, social housing can be understood as a challenge-driven

Types and examples of innovations necessitated by social housing

- New, cheaper, mass-produced building materials, including bricks and so-called pax bricks, new types of glass, iron and concrete as building materials, flooring, tiles, windows, doors, fittings for kitchens, bathrooms and toilets;
- New business models for companies producing building materials;
- New modes of logistics to ship building materials in huge volumes;
- New approaches in architecture when designing blocks of flats for social housing;
- New or significantly modified processes and building techniques (e.g. steel casting, iron trellis construction, glass columns), tools, and equipment to build these blocks of flats, as well as the adoption and adaptation of a set of new technologies originally developed for industrial buildings;
- New co-operative working methods at construction sites;
- New, more efficient heating technologies;
- Improved infrastructure;
- New organisations for self-help (guilds in Vienna, other initiatives in Germany, as well as those offering technical expertise and advice);
- New types of mass-produced furniture, lamps, kitchen ware, carpets, curtains, and so on, to furnish these flats;
- Setting up new companies to service these new demands and established companies introducing and following new business models;
- New funding modes.

innovation and, thus, the policies supporting these processes as challenge-driven innovation policies.

THEORETICAL AND POLICY IMPLICATIONS

The prevalent dichotomy of social vs. technological innovation needs to be reconsidered. It is more instructive and productive – both for social innovation practitioners and social innovation policy-makers – to understand social innovation as a co-evolutionary process of social innovation and all the business innovations, including both technological and non-technological ones, that are necessary to achieve the desired social changes.

> The prevalent dichotomy of social vs. technological innovation needs to be reconsidered.

Social innovations, therefore, need to be considered in science, technology, and innovation (STI) policy-making processes as well rather than only by social innovation policy-makers. In line with this, three 'facets' of social innovation policy-making can be identified:

1. Social innovation policy can be considered as a separate policy domain related to social policy aiming at providing new solutions to societal challenges such as marginalisation. For example, developing a solution to help poor, unskilled, unemployed people to become self-employed or set up their own businesses would fall under this category.

2. Social innovation policy can be regarded as a legitimate sub-field of STI policies comprising policy measures in support of those involved in social innovation processes, independently of the actors (profit–oriented firms or non-for-profit organisations). An example could be the funding of social innovation projects, which aim at co-creating and testing new social housing models by involving firms from the respective sectors, municipalities, citizens in general, prospective tenants, in particular, as well as researchers from various fields of science and technology.

3. Social innovation policy can also assume the role of a sub-field of economic policy-making, in which only firms are being considered as solution providers to societal challenges when designing policy tools. For example, entrepreneurs might be offered tax incentives to introduce profitable models of housing, running at the lowest cost for municipalities and tenants.

For social-innovation-policy as part of social policy, the experience accumulated through business innovation policy-making can be exploited in several respects. First, lessons can be drawn in relation to the understanding of the functions and failures of innovation systems, as well as concerning the importance of involving users and customers in innovation processes (user-led innovation). Second, invention should not be confused with innovation: social innovation policy measures should be designed in a way that ideas meant to address societal challenges should become implemented through the social innovation process. That is, leading to the successful introduction and diffusion of social innovation.

For those cases in which social innovation may be considered as a sub-field of STI policies, policy-makers need to pay more attention to: (a) the interactions between business and social innovations; (b) frugal innovation, which aims at solutions for poor customers; as well as (c) inclusive innovation, aimed at inclusive economic growth, and in the meantime at involving various stakeholders in the innovation processes, thereby mobilising a diverse set of knowledge and experience.

A new type of justification for STI policies is also emerging, based on the bold ambition that besides correcting market and/or systemic failures, policies should also aim at creating new opportunities and new markets. The basic idea of challenge-driven and market-creating STI policies might provide a useful starting point for social innovation policy-making on the one hand and might also make it easier to accept that STI policies should consider social innovation as a legitimate 'target', too, on the other.

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This review draws on Havas [3], where proper references and more details can be found, but more recent results of the CrESSI project are also presented here.

SOCIAL AND DIGITAL INNOVATIONS: CREATIVE INTERACTIONS RESPONDING TO THE MULTILEVEL CHALLENGES OF EMPLOYMENT

Creative interactions, responding to the multilevel challenges of employment, involve products and services sustained by technological innovations such as Big Data, Blockchain, the Internet of Things (IoT) and Artificial Intelligence (AI), accompanied by a firm commitment to Sustainable Development Goals.

Laura Gomez / Antonia Caro / Aitor Almeida / Marta Enciso / Ane Irizar

TECHNOLOGY AND THE JOB MARKET

The Fourth Industrial Revolution is defined by the adoption of cyber-physical systems that combine physical, digital, and biological elements in complex solutions. Building on the technologies spearheaded by the Third Industrial Revolution, this new process of automation is promoting the industry-wide usage of technologies such as robotics, artificial intelligence, nanotechnology, quantum computing, biotechnology, the Internet of Things, decentralised consensus, fifth-generation wireless technologies, additive manufacturing/3D printing and fully autonomous vehicles. The disruptive potential of these technologies is going to affect the job market in several ways.

The 2016 study by the World Economic Forum [1] shows that effects of several technology drivers are already felt in the workforce. Mobile Internet and cloud technology enable internet-based service models to spread rapidly and promote the delocalisation of services:

- New energy supplies and technologies are shaking up the global energy market and disrupting the traditional big players in the field.
- The sharing economy, promoted by crowdsourcing and peer-to-peer platforms, is introducing new business models that promote the casualisation of existing jobs.
- Other technology drivers are expected to have a significant impact in the short term. Advanced robotics with enhanced senses, dexterity and intelligence will start to perform service jobs that were previously considered as for humans only, such as cleaning and maintenance.
- Advanced autonomous systems could revolutionise transportation by as soon as 2020. This will result in the loss of existing positions to automation, removing the need for a significant proportion of the workforce.

But automation will not only affect more menial tasks. Recent advances in various domains of artificial intelligence such as machine learning, natural language and image processing as well as deep learning are enabling knowledge-related tasks that have long been considered as suitable only for humans to be automated.

The upcoming technological revolution will also have an impact on an increasingly mobile society, and trends that have emerged in previous years will accelerate due to the digitalisation of society [2]. Migratory flows, for economic or humanitarian reasons, generate new needs related to the integration of these groups into the social and economic network of the country of arrival. Moreover, the delocalisation of production (and its economic consequences) and the growing possibility of remote working implied by the changing labour paradigm sets some challenges:

- On the one hand, many humanitarian migrant groups are not able to be instantly integrated into the economic structure of the country of arrival.
- On the other hand, economic migrants look for motivations and opportunities, which are missed in their own countries. Low-skilled individuals who migrate in search of better economic opportunities will look for promising, emerging markets. However, with the implementation of the new technologies mentioned above, the labour market will change and this may bring critical changes for such groups.

High-skilled individuals who do not find work motivations now have increasing access to emerging labour markets and opportunities through ICTs. This may mean that countries

that fail to balance opportunities for both types of skill-sets will be hit hard due to the increasingly dynamic economic situation. Resources may be outsourced and the different worker-profiles that will be needed will be disseminated: the economies with most benefits for the individual will take advantage of this.

DIGITALISATION, WHERE SOCIAL INNOVATION MEETS GLOCAL EMPLOYMENT CHALLENGES

Digital transformation extends into, permeates and impacts every level of society and affects every sector of the economy. According to the European Commission's Digital4Development initiative, digitalisation acts as an accelerator and as an enabler of many, perhaps all of the Sustainable Development Goals (SDGs). Moreover, it is precisely where digitalisation meets social innovation and employment that it might be possible to tackle the major societal challenges of the years to come and find solutions to target several SDGs.

> **Digital transformation extends into, permeates and impacts every level of society and affects every sector of the economy.**

Digitalisation and employment cut across different Sustainable Development Goals as transversal themes in UN's 2030 Agenda. Digital solutions together with social innovations, especially those oriented towards employment, will be able to promote job creation, regional development and competitiveness – actions against exclusion, poverty, inequality and resource scarcity.

The UN stresses that "half the world's population still lives on the equivalent of about US$2 a day" [3] and that women's participation in the labour force is still much lower than men's (not to mention that there is currently a global gender pay gap of 23 %). Therefore, Goal 8 – *Decent work and economic growth* sets specific targets related to protecting labour rights for having safe and secure work as well as objectives for ensuring equal job opportunities for different social groups. The generation of new online services contributes to job and skills creation and, from the industrial viewpoint, highlights the importance of creating more jobs in order to reduce the global unemployment rate and enhance the development of different countries and regions. In this respect, employment is also featured in *Goal 9 -Industry, Innovation and Infrastructures,* which advocates that increasing jobs has a positive impact on society, and therefore sets a target for raising the share of employment accounted for by industry.

Accordingly, a social approach to employment can be also found in *Goal 4 – Quality Education,* which sets targets for promoting equal access for women, men and young people to affordable, quality education so as to improve skills which are needed for employment, decent jobs and entrepreneurship. The same goes for *Goal 5 – Gender equality,* which sets a target for giving women equal rights to economic resources and *Goal 10 – Reduced inequalities,* which responds to the problem of income inequality between different social groups.

For its part, the European Union has been deeply concerned about managing the digital transformation of EU society and its economy in recent years [4]. Since the launch of the Digital Agenda as a pillar of the Europe 2020 Strategy significant initiatives have been set up to address the challenges of digitalisation and seize its emerging opportunities. A review of those EU actions and initiatives covering various scopes and policies (such as education, employment, economic strategy, financial framework, etc.) reveals that employment is a cross-cutting topic. The European Commission's objective is to encourage market uptake of innovative solutions and stimulate employment. As a result, it is possible to systematise connections between employment and digitalisation in the following challenges highlighted recently by the EU:

• Measuring and evaluating national and EU situations to design policies for dealing with digital and employment challenges
• Promoting national policies to tackle the challenges of digitalisation and the labour market
• Workforce adaptation to technological transformations in labour markets
• Taking advantage of digital transformation to increase economic efficiency and provide new employment
• Giving EU financial support to help attain the expected benefits from digital transformation
• Providing better public employment services to citizens through digital transformation
• Reducing the digital gap and polarisation, thus preventing some people or regions from being left behind.

> **Social innovation, in conjunction with digital solutions, can find complementarities and synergies between programmes and initiatives and between policy levels and fields leading to inclusive, sustainable nested systems.**

DIGITALISATION AND SOCIAL INNOVATION: A MULTILEVEL CONTRIBUTION TO TACKLING EMPLOYMENT CHALLENGES

Training institutions, companies, policy makers and individuals need to prepare for rapid labour market developments, with digitalisation helping to tackle challenges from the incremental to the disruptive. Therefore, with digitalisation playing a major role in the handling of multilevel challenges for adapting to rapidly changing labour markets, social innovations will find many fields and dimensions in which they can intervene.

Social innovation, in conjunction with digital solutions, can find complementarities and synergies between programmes and initiatives and between policy levels and fields leading to inclusive, sustainable nested systems [5] and the attaining of the 2030 Agenda targets. The following challenges have been identified at different intervention levels:

Systemic level

The right combination of digitalisation and social innovations could address:

Training and provision of basic and advanced digital skills depending on the needs of the target population.

The shortage of high level profiles (STEAM) and lack of engineers (especially girls and women). Human mobility and talent attraction and retention policies will play a major role.

New communication channels that could enhance women's participation in the workforce and everyday life and provide access to education, finance and social networks

National, regional and/or local levels

Identification of sectors for the future linked to specific local or regional levels to boost their competitiveness, development, inclusiveness and sustainability.

Balance of worker-profiles needed for regional/local development and competitiveness in alignment with the Smart Specialisation Strategies, the region's employment and digitalisation targets and foresight exercises for identifying future sectors and scenarios.

Managing the constant in/out-flows of low and high-skill migrants with adequate inclusion policies and social innovation initiatives to provide suitable employment paths to a digital labour force.

Institutional level

Companies and training providers must anticipate and flexibly adapt to the needs of future sectors based on foresight exercises.

E-teaching and e-learning provide for flexibility and the opportunity to access teaching material provided by leading education institutions (SDG4).

Update training programmes and contents to respond to personal career development paths and market needs.

Managing future mobile workplaces and cloud working in innovative ways to generate in-company dynamics and collaborations between individuals and experts in different fields.

Individual level

Work transitions over the course of life within the unprecedented development of new technologies and the pace of global mobility.

Agency as a more active form of engagement for all in the labour market will contribute to both human development and a stable, resilient citizenship.

Planning Life Long and broad Learning paths to equip individuals to successfully manage labour market transitions as stated in the European Pillar of Social Rights.

Identification of four different challenges at different intervention levels

CONCLUSION
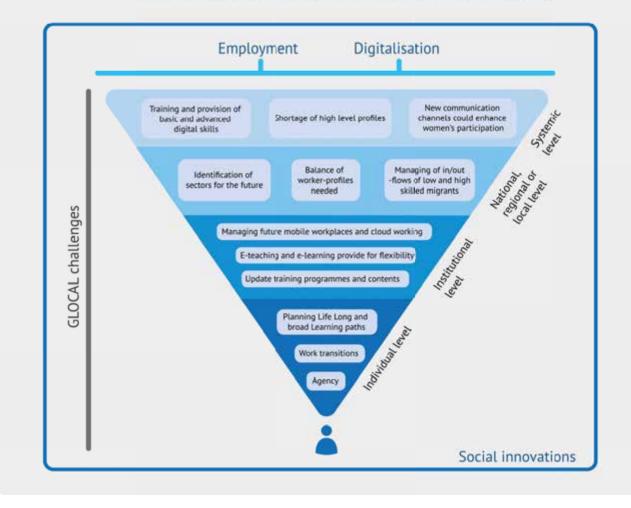
In the upcoming technological revolution, digitalisation will play a paramount role affecting the labour market at multiple levels. Analysing the main needs, challenges and areas of impact can provide valuable insights into where and how to propose solutions and strategies. In alignment with the 2030 Agenda, upcoming paradigms will offer frameworks for innovative initiatives to foster inclusiveness of vulnerable groups.

The confluence of social innovation, employment and digitalisation opens up myriad opportunities, challenges and innovative responses at different levels, from the individual to the systemic, from personalised paths to global solutions, from local development policies to disruptive changes in all fields (health, finance, leisure, education, etc.).

To generate creative interactions able to respond to the multilevel challenges of employment, there is a need to initiate processes of reflection on the type of society that a given community seeks to achieve. Feedback-loops, trust building, and a deep understanding of the multilevel needs of multiple stakeholders, interests and rates will help to reach a common consensus.

The aim is to generate 'nested ecosystems' around the challenges identified in a given context with the focus on protecting the most vulnerable, as in a nest. By taking care of those that cannot survive without the help and assistance of the community, these 'nested ecosystems' can foster 'win-win' balanced interconnections and a mix of cooperation and competitiveness needed to achieve wellbeing, development, sustainability and inclusion [5].

Examples of interchanges outlining social innovation's contribution to the main challenges of employment and digitalisation

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COMPLEMENTING DIGITALISATION WITH WORKPLACE INNOVATION

Social innovation within the workplace is called workplace innovation. Without workplace innovation, organisations cannot reap the benefits of digitalisation. Technology does not dictate work organisation and labour relations; there is 'organisational choice'. Yet, there are a number of pitfalls.

Frank Pot / Steven Dhondt / Peter Oeij / Diana Rus / Peter Totterdill

INTRODUCTION

The world has been muddling through several disruptive technological breakthroughs for some time now. Robotics, artificial intelligence and machine learning could fundamentally change the nature of work and impact the future viability of organisations as well as that of the general societal fabric. However, that future is not a given. In light of an ever-globalising market and the rise of the so-called 'second machine-age', companies have become increasingly concerned not only with maintaining productivity, but also with becoming more flexible and innovative. Whereas some companies and public institutions still put their faith in technological innovation alone and focus their resources on 'digitalisation', others have come to realise the limitations of focusing blindly only on technological advancements. Indeed, over the past two decades, awareness has grown among both public and private organisations that technological innovation alone is not enough to face the complex social and economic challenges of the 21st century successfully and sustainably.

Instead, the notion has emerged that investments in technological innovation should be complemented with non-technological innovation to stimulate economic growth. An important element in non-technological investments is new forms of organisation and work [1]. As early as the post-war aftermath in Europe, experiments showed how sociotechnical systems design could simultaneously help productivity and the humanisation of work. A number of different terms have been used recently to describe these new organisational approaches that support innovation, such as: high performance workplaces, high involvement workplaces, innovative workplaces, innovative work organisation, workplace development, social innovation in the workplace, relational coordination, employee-driven innovation and workplace innovation. Although the terminology might differ, all these approaches place a premium on employee participation and a better utilisation of the already existing human talent within organisations, primarily by (re)designing the organisation of work and tasks to enable people to be more effective and creative. Moreover, the shared objective of these approaches is to simultaneously improve the quality of working life (competence development, stress reduction) and organisational performance (productivity, innovative capacity). Furthermore, they support the use of technology for this purpose.

In this chapter, we will use the concept of workplace innovation as an umbrella term for non-technological approaches to innovation. The objective of this chapter is to show how digital technologies alone will not render organisations productive: the organisational concept needs first to be designed to fit the abilities of employees and digital technologies complement this strategy.

WORKPLACE INNOVATION

Workplace innovation can be described as new and combined interventions in work organisation, human resource management and supportive technologies. Workplace innovation is an inherently social process because it derives from interaction between different stakeholders both within and outside the organisation (depending on the context, these might include managers, employees, unions, shareholders, customers, suppliers, consultants, policymakers and community interests).

> **Workplace innovation is an inherently social process because it derives from interaction between different stakeholders both within and outside the organisation.**

In defining workplace innovation, it is important to recognise both process and outcomes. The term describes the participatory process of innovation which leads to empowering workplace practices which, in turn, sustain continued learning, reflection and innovation. It champions workplace cultures and processes in which productive reflection is a part of everyday working life. It builds bridges between the strategic knowledge of the leadership, the professional and tacit knowledge of frontline employees as well as the design knowledge of experts. It seeks to engage all stakeholders in a dialogue in which the force of the better argument prevails. It works towards 'win-win' outcomes in which a creative convergence (rather than a trade-off) is forged between enhanced organisational performance and enhanced quality of working life [2].

The concept of workplace innovation has proliferated in European policy, academic and practitioner circles over the past two decades. For instance, its proliferation across a number of European countries as well as in the policies of DG GROW and DG EMPL of the European Commission suggest that workplace innovation has come to be seen as a valuable resource for achieving economic and social policy goals by ensuring that organisations and the people within them can purposefully engage in healthy, sustainable change and successfully embrace challenges thrown at them by a volatile, uncertain and complex world. Good examples of national initiatives can be found in Germany where high-tech programmes are accompanied by programmes on 'Work 4.0', in Finland with the 'Business, Productivity and Joy at Work' programme and the 'Workplace Innovation Engagement Programme' in Scotland. International networks include the 'European Workplace Innovation Network' (EUWIN) and the 'Global Network for SMART Organization Design'.

ORGANISATIONAL AND DIGITAL CHOICE

An important barrier for workplace innovation is the erroneous idea that technology dictates how work is organised and what jobs look like. Of course, work organisation and jobs have been changing along with technological innovations. These new technologies have indeed provided new opportunities to design business processes, yet not in a deterministic way. In healthcare there are hierarchical as well as flat organisations using the same technology. An example of the latter is Buurtzorg International, a community care provider based on the professional autonomy of nurses, which started in The Netherlands. Buurtzorg has accomplished a 50 percent reduction in hours of care, improved quality of care and enhanced job satisfaction for employees. Looking at bicycle manufacturing in The Netherlands and Belgium, we see factories with conveyer belts and repetitive work of 90 seconds duration as well as factories where one operator assembles a whole bicycle. Well, if it is not the technology, we may wonder whether economic factors determine work

organisation and job content. However, this also seems only partially to be the case. Research by economists has shown that differences in productivity and profits between companies can be explained by different combinations of management practices and tools. The same market forces lead managers to make different choices about these measures and organisation.
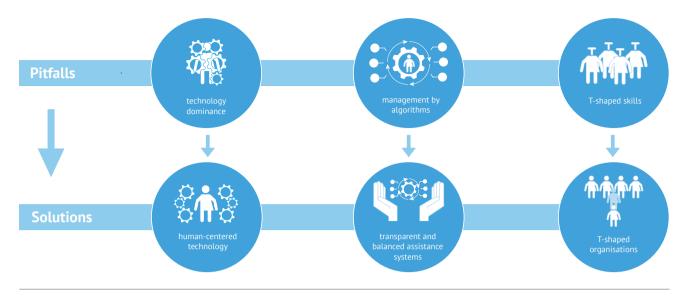
Making the right choices about organisation, however, is becoming more and more important. The types of investments required to render companies profitable have shifted over time. There is a clear shift of focus from tangible investments in hard technological innovations (machines, buildings etc.) to intangible investments such as research, ICT and managerial practices, such as work organisation. Different human resources, skills and styles of leadership lead to productivity differences. The OECD calls these 'Knowledge-Based Capital' (KBC). Because these non-tangible investments are rising quite steeply, organisations need to consider their chosen strategy more carefully. Companies need to understand the importance of their 'organisational choice', instead of blindly following technology.

In the era of digitalisation and Internet of Things, sometimes called Industry 4.0, organisational models still favour technology. Industry 4.0 enables new forms of digital process analysis, control, and optimisation based on real-time information exchange, big data, and machine learning, along with the use of assistance systems that provide information in the work process in a situation-specific and in real-time. But, networking of assembly parts, linking transport carriers to processes, integrating machines and robots, and using measurement instruments in the right way, all require sensible organisational solutions.

> **Technology can never take care of itself, whether we talk about the Computer Integrated Manufacturing era of the 1990s or about Industry 4.0.**

All these technologies seem neutral at first. However, the dialogue is riddled with technology dominant thinking. Most discussions about Industry 4.0 are about optimising technology and ICT-infrastructure. Such thinking sees employees as complementing technology, not as creating value for the organisation. The technology dominant thinking pits the skills of employees against the complexity of technology. Hence, in comparison, employees always lose out.

Technology can never take care of itself, whether we talk about the Computer Integrated Manufacturing era of the 1990s or about Industry 4.0. We need to acknowledge this.

Mastering technologies

The organisational concept needs to dominate technological choices. This will be easier in the future since technologies are becoming cheaper by the year. Yet, the investment decision for companies gets harder: how to devise an organisational set-up that allows employees to maximise both the use of technology and personal skills?

SOME PITFALLS IN DESIGNING WORKPLACE INNOVATION

Pitfall 'starting with technology'

The first trap operational managers fall into is kicking off the new organisational design from the technology side, because, too often, hardware and software are seen as the money makers. The result is almost certainly a sub-optimal integration of work organisation and technology. The potential of the technology is never attained. Apart from skyrocketing costs, it takes months and sometimes years to align technology and work organisation, if this ever occurs. This is even worse when employees, the end-users, have not been involved and the technology does not support them, which most certainly leads them to see the technology as serving top-down control. History is filled with examples of disastrous technology-driven investments. 'Halle 54' for example was a failed experiment in 1983, in which the German Volkswagen car company hoped that a fully automated plant would solve its quality and productivity problems [3].

Pitfall 'management by algorithms'

According to research by Eurofound, the Internet of Things may positively change work processes. Quality management is expected to improve due to more advanced analytics of process data. Processes will be more efficient, and failure will often be predicted by data. Internal and external collaboration will increase: externally with more partners in the value network, internally between human and machine. Interactions will be more digital, and decisions will be assisted by intelligent systems based on data. Processes will be less standardised (customisation). Decision-making may, therefore, also be devolved to the work floor [4]. This is the technologists' hope. Reality is however somewhat harsher. Logistics companies have access to sophisticated (AI-driven) planning tools for huge warehouse operations. Only too often, managers find out that their planners turn off the software options meant to support the planning. This is not because of the planners' bad-will, but simply because they cannot understand why the software has made choices different from theirs. They fear that shopfloor-based-experiential knowledge may take the backseat to data-based optimisation, and operators still have serious doubts whether the 'black-box' decisions made by AI are optimal. Employees understand that the expansion of digital knowledge management and assistance systems is a major risk for standardised working routines, leading to less autonomy in their jobs.

Lessons learned: First design the work organisation, then design digital technologies to support this organisation. Employees need to be at the centre of organisational design.

Lessons learned: Algorithms and assistance systems should be transparent and subject to discussion among management and employees using criteria for job quality such as autonomy, stress prevention and competence development.

Pitfall 'attention for skills only'

The current debate about digital skills sees the current employee, whatever his/her educational background, as incapable of matching the requirements of the 21st century or of developing 'T-shaped skills' with their over-insistence on digital skills, flexibility, innovative work behaviour etc. The reality is that T-shaped skills require T-shaped organisations. It is impossible, no matter how well-studied the individual may be, to be an expert in several disciplines and systems. However, collaboration between such specialists does generate superior organisations. Organisations need to be shaped to allow such collaboration, and also to make sure that these skills are maintained and developed over time. It is clear that a command-and-control organisation will not be supportive of such developments.

> **Lessons learned:** To benefit from 21st century skills, organisations should develop a 'participation & trust' management regime, entering the 21st century themselves.

CONCLUSION

Workplace innovation is a member of the family of social innovation. Given that technological and business model innovations alone are not sufficient to enhance opportunities for businesses and employment, awareness is rising that better use should be made of human talents and new ways of organising and managing. Such a perspective fits well within the long European tradition of seeking convergence between market-oriented policies and a healthy socio-economic environment. Although the evidence supports the role of innovative work practices in underpinning improvements in organisational performance and job quality, it is striking that so few companies in Europe seem willing to introduce them. That being said, the number of companies introducing workplace innovation practices is growing, partially also spurred by new challenges posed by Internet of Things and Artificial Intelligence. Organisations can only benefit from digitalisation if workplace innovation lies at the core of investments in new digital technologies. Being aware of 'organisational choice', management can actively choose to take workplace innovation as a departure point for innovation. That is, if they embrace the idea that employee engagement is crucial for productivity improvement and enhancing the innovation capacity of the organisation. In this respect, the first and most obvious thing managers could do is to simply ask their employees how the work organisation could be improved and how technology could support that [5].

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INNOVATION RELOADED – THE SOCIAL CHARACTER OF DIGITALISATION IN INDUSTRY

In the very core of digitalisation, there is social innovation: experiences of digitalisation processes in the production industry show that combining technological and social innovation makes technological development and implementation processes more effective and efficient – changing social practices in the sense of social innovation.

Michael Kohlgrüber / Antonius Schröder

It might be hard to imagine that digital products of engineers, software developers and other technical disciplines are subject to social innovation. However, we argue that successful digital solutions are changing **social practices.** Working activities, organisational and business procedures will change when people and organisations are going digital. That´s in fact what is called a social innovation: *new or reconfigured social practices that solve problems in a better way than existing practices* [1].
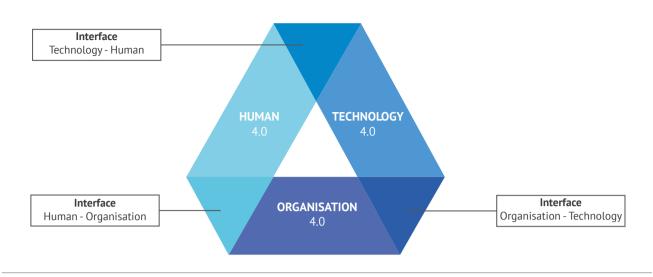
Digital solutions that have a real impact on business and society are usually the result of a *social innovation process.* Developing and implementing new (digital) solutions in an effective and efficient way stems from initiating co-creation processes. In these processes, users and stakeholders are consequently integrated with their knowledge and competences, right from the beginning. This is not only done to ensure acceptance of the solution but also to improve its applicability and quality. For example, artificial intelligence might create an optimisation of production processes based on math. However, these theoretical solutions become meaningful when combined with the knowledge of process experts and the practical knowledge of operators. Therefore, in many cases, it is the power of co-creation and complementarity – and thereby a social innovation process – that makes a *mere* digital solution smart.

If an industrial revolution will take place, as suggested by the term 'Industry 4.0', it will materialise as a combination of technological and social innovation. The following paragraphs present the development of digital technologies in the production industry within social innovation processes transforming the production and working environment and leading to new social practices at the workplace.

> If an industrial revolution will take place, it will materialise as a combination of technological and social innovation.

(SOCIO-)DIGITAL TRANSFORMATION IS GENERATING NEW SOCIAL PRACTICES

The usage of digital technology in itself does not change production processes. For this purpose, skilled workers have to use technology implemented in an organisational framework. Thus, the so-called digital transformation is indeed a socio-digital transformation. Otherwise, transformation will not really take place or fail. The way to design that socio-digital system will make the difference. If it is not consciously designed, a socio-technical system might emerge, which is dominated by technology reducing people and organisations to residual categories (see the article of Pot et al. in this chapter).

However, to unfold the full potential of digital transformation, a joint optimisation of people (human), technology and organisation has to take place by placing great importance on the interfaces between them. For instance, intelligent assistance systems, new division of tasks between human and robot as well as related human-robot interfaces exemplify the human-technology interface. Consequently, not only technology but also working practices and needed skills, are changing while using new technologies: beside generic digital skills, for instance holistic and interdisciplinary tasks, decentralisation of decision making, problem-solving, team- and networking, as well as T-shaped skills combining transversal with specialised skills are needed. Those changes in social practices will increase effectiveness and (sometimes

Interfaces of human, technology and organisation in Industry 4.0

in the end) efficiency of industrial processes with a positive impact on employees and the environment (e.g. in reducing energy and heavy and hazardous work).

Kohlgrüber et al. [2] applied this framework in several research and consulting projects in process and manufacturing industries – raising user requirements related to human, technology and organisation as dimensions of a socio-technical system. Examples are provided by the plant-wide digital optimisation project COCOP (Coordinating Optimisation of Complex Industrial Processes) and an aircraft manufacturing project dealing with the impact of digitalisation on employees.

Further projects, such as ESSA (www.estep.eu/essa) and BEYOND4.0 (www.beyond4-0.eu), focus on future skills needed for digitalisation. Again, the interface between people and technology is highlighted as a key factor for a successful digital transformation. Several steel companies have developed digital strategies that are strongly connected to identifying needed qualifications and trainings in time in a forward-looking anticipatory way.

> **Without a social innovation process, implementation of digital solutions is lacking acceptance and knowledge of users and stakeholders.**

(SOCIO-)DIGITAL TRANSFORMATION AS A SOCIAL INNOVATION PROCESS
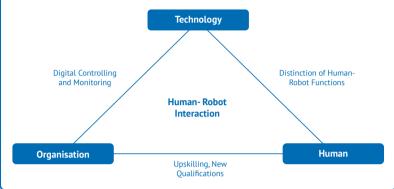
Without a social innovation process, implementation of digital solutions is lacking acceptance and knowledge of users and stakeholders. To achieve the joint optimisation of people,

technology and organisation, participation of users and stakeholders is key. As far as companies only take technology as *acceptance object* into account, two other necessary aspects are neglected: people and teams as *acceptance subjects* and the regional/historical/social/company *acceptance context*. Not considering this perspective might be the reason why a high number of new software systems are not crossing the threshold of industrial implementation.

The only way to increase this small share of used technologies is a co-creation process solving a specified demand where users/stakeholders are involved in the development and implementation of new solutions. Getting people from human resources departments, work councils, representatives of employees, and workers themselves involved in the project team, will create better solutions than project teams only consisting of engineers, software developers, etc. With their explicit experiences, employees are the experts for their workplaces and processes. If they are seriously involved in development processes, they will provide feedback and suggestions on new technologies based on their experience, expertise and needed requirements. This participation will not only create acceptance but will make the new solution more suitable and valuable.

However, even if project leaders are open for participation of users and stakeholders, they are often facing the problem of different cultures and languages between technical developers and human resources experts. Feedbacks of users/stakeholders are usually not formulated as requirements – they are expressed as statements, general descriptions, needs or questions. However, their feedback has to be translated into precise human requirements: clear, measurable and validatable. If defined in another, more open manner, technical designers take notice of the users' and stakeholders' needs, but they are not capable to process this information into their further work.

ROBOHARSH: Robot – Human – Interface development leading to new practices / a new role for operators

Developing a Robotic Workstation in Harsh Environmental Conditions to Improve Safety in the Steel Industry (ROBOHARSH) needed a new allocation of tasks between the human operator and the robot activities. Done in a close co-creation between workers and technicians the new division of work did not only improve the acceptance of the end users, but clarified also the new required skills. In this case, low skilled heavy and dangerous work is substituted by high skilled computer-controlled activities. Taking the interfaces between technology, organisation and human into account the work of the operator changed from "operator to supervisor" [3].

Technology

Digital Controlling and Monitoring

Distinction of Human-Robot Functions

Human- Robot Interaction

Organisation

Upskilling, New Qualifications

Human

GT VET: User related learning arrangements
https://www.estep.eu/estep-at-a-glance/involvement/gt-vet/

Greening Technical Vocational Education and Training (GT VET) for maintenance in the steel shop floor is of high relevance to reduce waste, energy, noise and emissions [4,5]. To sensitise workers and apprentices for "greener" working practices, not only the content but also an effective, efficient and accepted way of learning / training became relevant. Starting the development of a training module as a social innovation process by integrating all the relevant stakeholders and future learners it became evident in the very beginning that the planned eLearning module would not be appropriate and used. Instead, apprentices and workers stressed workplace and action oriented learning. In the end, a common training module was developed, reflecting the main requirements of the companies concerning the training modules (energy, waste, noise, and raw material reduction) and the didactical requirements of the learners (starting with basic information and understanding background and coherences but then focusing on practical exercises and projects linked to the concrete workplaces). The test phase of the training module showed not only the high engagement of the trainees but led also to new energy saving, emission and noise reduction practices; not only via new "greener" maintenance practices but also by changing some elements of the production process (in the sense of workplace innovation).

This setting of involved parties within a digital transformation could also be seen as a social innovation process, involving all relevant stakeholders and considering impact in a broader sense (social, organisational, environmental, regional and others), right from the beginning of technological development. Within a common co-creation and implementation process representatives of employers and employees, end users and beneficiaries, technical and human factors experts are collaborating together to achieve better results than former practices. The outcome of this new practice of co-creation could lead also to formal negotiations between management and employee representatives (within a company or at a national level). The advantage for employees and their representatives is that their requirements are considered in an early project stage when there still is a wide range of design options, creating a win-win situation with advantages for all involved parties.

CONCLUSION

Digitalisation is not only about technology, it is much more a social innovation process and a socio-digital transformation leading to new practices. Only if the solution of a given economic, societal challenge (e.g. reduction of hazardous work and energy, improved competitiveness) is leading technological developments (and not the technological possibilities as such) implementation, usage and impact are to be expected. Against this background the configuration of the interfaces between human, technology and organisation are crucial for the innovation process. All three elements are affected, but especially the interface between human and technology is often neglected or considered when the technology is already developed (leading sometimes to collateral damages and high follow up costs for adjustments). Integrating the end users, customers, beneficiaries and other relevant stakeholders in a common innovation process is therefore key for developing effective and usable solutions and the implementation of new (digital) technologies, leading to new social practices enabled or supported by new technologies.

Digitalisation can not be reduced to social innovation but it is much more social as frequently assumed; it is both technological and social. The best results and outcomes will be achieved, if both technicians and human resources perspectives, competences and skills will be combined right from the beginning in a common innovation process, co-creating socio-digital transformation of existing practices to new practices solving given economic, societal challenges in a better way than before.

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CREATING AND EXPLOITING A DIGITAL SPACE FOR SOCIAL INNOVATION

Digital technologies fulfil several functions with regard to social innovations. They are enablers of social innovation and civic action, but they also create a new (digital) space for social innovation. Through these mechanisms, digital social innovations are evolving into a cross-cutting phenomenon driving social change in a wide variety of areas.

Matthias Weber

WHAT IS DIFFERENT ABOUT *DIGITAL* SOCIAL INNOVATION?

Digital social innovation (DSI) is a comparatively new phenomenon that has grown in significance in particular with the introduction of digital platforms and social networks. It is enabled by digital technologies under the four headlines of open data, open hardware, open networks and open knowledge. According to the EU-funded DSI project (digitalsocial.eu), digital social innovation can be defined as:

"(a) type of social and collaborative innovation in which innovators, users and communities collaborate using digital technologies to co-create knowledge and solutions for a wide range of social needs and at a scale and speed that was unimaginable before the rise of the Internet" [1]

This definition stresses the socio-technical nature of DSI, i.e. new forms of social practice and organisation are made possible by the close interaction of the social and the technical. Other related concepts, such as civic technology, social technology or ICT-enabled social innovation, may overlap with digital social innovation, but they tend to stress other features. The notion of civic technology, for instance, emphasises the potential to strengthen democracy, by enabling greater participation in government and assisting government in delivering citizen-centric public services.

The network effects associated with digital networks and platforms mean that the utility of a network grows with each new node that is added to the network. They help overcome one of the most important barriers to the generalisation and institutionalisation of social innovation, namely the lack of a self-reinforcing mechanism driving forward the processes of

scaling and widespread uptake of social innovations in society. Whereas many technological innovations benefit from economies of scale, i.e. cost digression with growing output, such a powerful driver of innovation and scaling dynamics is missing in the case of social innovations [2]. Network effects may at least partly compensate for this deficit, even if they are fully effective only beyond a critical network size.

The new social practices and their scaling are enabled by four specific characteristics of open digital systems, namely open knowledge, open data, open hardware and open networks. This technological infrastructure has given rise to the creation of a variety of ecologies and applications on which DSI builds. Outstanding among these in terms of their enabling role for DSI are social media and social networks for information and knowledge exchange, and crowd-based instruments for the sourcing and mapping of information and for the financing of DSI. The opportunities offered by open digital systems can be exploited in a wide variety of areas, ranging from mobility, housing and energy supply to learning, health and financial services.

> **Digital social innovation differs from other kinds of digital innovation in terms of its (social) purpose and the emphasis on changes in social practices enabled by digital technology.**

Digital *social* innovation differs from other kinds of digital innovation in terms of its (social) purpose and the emphasis

on changes in social practices enabled by digital technology. The dominance of intended social or environmental benefits of DSI contrasts with the focus on profit-orientation and economic benefits that is typical of most other digital innovations.

KEY FINDINGS AND PATTERNS

According to a stocktaking exercise of the DSI4EU project [3], there were almost 2,000 organisations and over 1,000 projects involved in digital social innovation (DSI) across Europe in 2017, with the highest concentration of activity in Western and Southern Europe. By now, numbers already increased to over 2,200 and 1,400, according to DSI4EU's web tool. These figures, however, should be interpreted with great care because there is no common and standardised definition and methodology for identifying DSI in different countries, and the efforts for identifying DSI vary considerably.

As known also from other surveys on social innovations, many DSI projects are of limited impact and face difficulties to scale and diffuse (which does not mean that all DSI necessarily have to grow beyond local applications!). In any case, here are only few examples of DSI initiatives of larger scale and wider uptake. In spite of network effects, the growth of DSI is hampered by barriers at project and system levels. At system level, for instance, DSI projects and organisations are still poorly connected to each other, both within and across countries and regions, which at the same time is a prerequisite for boosting network effects, enabling knowledge-sharing and, ultimately, generalising DSI. There is a perceived lack of funding and investment in DSI in Europe. Digital skills shortages further hamper the realisation of DSI. This has also been one of the reasons why many civil society organisations and the public sector have adopted DSI rather slowly [4]. And also the ability of citizens to engage with DSI suffers from a lack of digital skills.

DSI shows noteworthy spatial distribution patterns. First of all, there is a significantly higher level of DSI activity in cities than in rural areas. Reasons for this are the particular social and environmental challenges arising in cities, the networking opportunities resulting from higher population density and diversity, and the easier access to assets and resources. Major cities like London, Paris, Amsterdam, Barcelona and Berlin are hotspots of DSI.

Second, DSI activity is not evenly distributed across Europe. There is a concentration of activities in Western and Southern Europe, especially the UK, France, Italy, Spain, the Netherlands and Germany. By contrast, there is less activity in Eastern and Northern Europe and particularly little activity in the Baltic and Balkan countries. This is not due to a lack of interest in or need for DSI among citizens, but rather the result of a shortage of resources and skills.

Finally, at a European level, stakeholders in DSI are not very tightly connected, but rather form a patchwork of DSI islands. A recent network analysis has shown that there are some major network nodes across Europe, but the connectivity of stakeholders in DSI is still insufficient to create substantial network effects of European scale [1].

SOCIAL FUNCTIONS ENABLED BY DSI

The key feature of DSI as compared to conventional social innovation is their technology-driven enabling function for novel interactive or collaborative social practices. With the help of digital technologies, these social practices can be performed at a new quality level and give rise to a corresponding change in important social functions [1]:

- **Collaborative economy:** New practices of collaboration and sharing, which in the past were hampered by comparatively high coordination costs, are now possible through electronic intermediation and instantaneous online interaction.
- **Open democracy:** Digital social media enable the formation and mobilisation of social communities and the creation of new virtual arenas of debate. These can give rise to new forms of democratic participation but also to social practices that could undermine democracies, for instance through amplifying fake news in the echo chambers of confined virtual communities.
- **Open access:** The availability of and access to vast amounts of online data offers new opportunities for new practices of information and knowledge sourcing, but also of pooling and visualising that knowledge.
- **Awareness network:** Access to information and knowledge can be used to enhance transparency, raise awareness in physically distributed social communities, mobilise these communities and stimulate action much quicker than in the past.
- **Funding acceleration and incubation:** Access to information and knowledge also means access to alternative financial and other resources. In conjunction with the awareness-raising function of digital network, new types of social practices can be incentivised.

SOCIETAL AREAS OF APPLICATION OF DSI

Nowadays, DSI initiatives can make use of a broad range of established and emerging technologies to empower citizens, facilitate collaboration and deliver social impact. They have the potential to transform the way public services are delivered, reduce environmental impacts, and empower citizens to participate in activities that were reserved for experts in the past. So far, DSI has been particularly relevant in the following areas of application [1]:
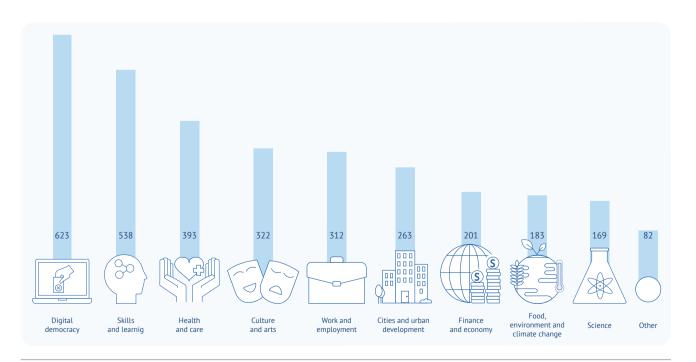
- **Health and care:** Chronic or orphan diseases can be addressed through digitally enabled networks of patients worldwide. Knowledge exchange and mutual learning between people with disabilities is facilitated by DSI.
- **Finance and economy:** DSI can give access to novel forms financial intermediation, including mobile banking and micro-credits.
- **Food, environment and climate change:** New types of local smart grids, but also new mobility solutions based on sharing models or new forms of food supply have the potential to reduce environmental impact.
- **Digital democracy:** Digital fora create new publics and arenas of political debate, giving people easier access to democratic processes of opinion formation.
- **Cities and urban development:** DSI solutions offer easy access to public and social services, for instance in areas like housing, social care, or e-government.
- **Science:** DSI allows involving citizens directly in processes of knowledge creation through citizen science or open user-driven innovation.
- **Skills and learning:** Online services are nowadays available to upgrade skills, share learning experiences and enable peer learning.
- **Culture and arts:** FabLab and maker communities benefit from DSI in order to build decentral production activities and exchange software through an open source model.
- **Work and employment:** Coordination of supply and demand on labour markets – paid or unpaid – is easier and quicker if DSI solutions are used, including voluntary labour or the integration of migrants into work environments.

In order to provide a rough assessment of the relative significance of the areas of society in which DSI are implemented, the figure shows the distribution of areas as provided by the DSI4EU project visualisation tool.

IMPACTS OF AND BARRIERS TO DSI: TOWARDS A FUTURE AGENDA

This brief overview of DSI has shown that digital technologies can be used pervasively in a wide range of application areas, thus opening up novel opportunities for social innovation. What becomes also apparent is that their potential impacts are ambivalent. Digital technology can be put to social as well as to commercial use, and even well-intended DSI may easily give rise to misuse: examples such as fake news or embedded discrimination call for a responsible and ethical use of DSI.

In spite of high promises and several successful and socially benign examples of DSI, its impact in society has been limited so far. The potential of network effects for scaling DSI has not yet been fully brought to bear. Reasons for the reluctance to engage in DSI reside in the fast pace of innovation and change in digital technologies and thus the high level of uncertainty associated with DSI, which –taken together– make fast learning about their pros and cons a must. Public investment in DSI support infrastructures (e.g. incubators/accelerators, network-building, and training initiatives) could provide peer-learning spaces, facilitate knowledge exchange about good practices and support the

Digital democracy	Skills and learnig	Health and care	Culture and arts	Work and employment	Cities and urban development	Finance and economy	Food, environment and climate change	Science	Other
623	538	393	322	312	263	201	183	169	82

DSI per area of society (data from DSI4EU mapping (June 2019), based on 1456 collaborative DSI projects and 2256 DSI organisations, multiple mentions of affected areas of society possible)

emergence of a wider range of DSI initiatives. These support infrastructures also allow bringing practitioners, funders, policymakers and investors together.

Resource constraints are another factor hampering the generalisation of DSI. Private and public funders are often called upon to support social innovation, but the digital sector in particular has been very ingenious in devising new financial and business models, and in mobilising funding. DSI initiatives would benefit from policies and regulations to facilitate access to alternative financing models and to support the uptake of open source solutions in order to advance DSI.

Mapping exercises have shown that DSI initiatives need to strengthen their cooperation at the European level in order to be able to benefit from network effects and strengthen their position vis-à-vis incumbent players in the main application areas. DSI initiatives could benefit from cooperation with established civil society organisations and their pre-existing European structures and networks, in order to enhance the prevailing bottom-up start-up culture of DSI by embedding it in a stable and supportive institutional environment. Research is still needed on the complementary role of DSI in innovation ecologies of different application areas in order to better understand how sustainable models of DSI could look like, and what conditions are needed to enable their scaling and replication of DSI.

However, the future of DSI is likely to be rich in surprises, because the development of an enabling digital infrastructure for DSI still continues. We can observe a number of novel opportunities that may give rise to new forms of DSI. Distributed ledger technology (better known as blockchain) can reduce the costs and time of trustworthy interactions, up to the point of making existing intermediation functions obsolete. Digital identities, tracing the origins of products

The future of DSI is likely to be rich in surprises, because the development of an enabling digital infrastructure for DSI still continues.

and new forms of access to financial services are just some examples of DSI enabled by blockchain-based solutions. Artificial intelligence is yet another technological development that may give rise to new DSI. Predictive 'big data' analytics can be used for social purposes as much as for commercial ends, and chatbots can help migrants to navigate in their new host countries. The functionalities of social media and social networks are likely to be enhanced in the future by way of virtual or augmented reality devices, and there is no reason why they should not be put to use for social purposes. Observing and monitoring of these novel developments in DSI, and learning about their potentials and risks, will be crucial for the timely definition of framework conditions and incentive structures to help accelerate the scaling and adoption of DSI.

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THE MAKER MOVEMENT'S POTENTIAL FOR AN INCLUSIVE SOCIETY

With the Maker Movement we are seeing a new culture of manufacturing rising: Many makers combine technological interest with a societal mission. In the open environment of MakerSpaces, people with disabilities can connect to maker communities and find pathways for self-empowerment, for instance, through co-creating individualized assistive tools.

Ingo Bosse / Daniel Krüger / Hanna Linke / Bastian Pelka

INTRODUCTION

People around the world are inventing, co-creating and building a broad variety of solutions and objects. They are "high-tech do-it-yourselfers" [1] forming a new movement, commonly referred to as the *Maker Movement*. Many of them want to be change-makers, aiming at finding solutions to societal challenges (e.g. [2]). The establishment and diffusion of new making-practices is especially enabled by digital (fabrication) technologies and platforms providing a basis for new approaches of inventing, prototyping, creating tangible objects and providing access to them. Technologies like 3D-printers and laser-cutters allow makers to easily create prototypes for testing. They also enable creative people to invent and realize low-cost objects and solutions. Thanks to platforms for open access, makers can connect to a community of other makers and exchange ideas, knowledge and models for 3D printed objects. Through platforms, objects and solutions can easily be reproduced by nearly anyone with access to the necessary machines, devices and software like computers, 3D-printers or laser-cutters. Such technologies can be found in MakerSpaces, which can be seen as manifestations of "localized spaces of collaborative innovation [...] where knowledge communities meet to collectively innovate" [3]. In these open spaces, people can get the necessary access to the aforementioned technologies and makers can support anyone who is in need for these solutions. This open access to existing solutions already holds some potential for a contribution towards inclusive transformation of societies, in which people have the same chances for accessing whatever they want, need or find useful in any context regardless of their backgrounds and physical or cognitive abilities. When marginalized groups have open access to things that enhance everyday life, more equality is achieved for everyone. However, open spaces like MakerSpaces

or FabLabs can also provide leeway for inclusive practices beyond open access. They open up a pathway for empowerment when users of already existing solutions can also be inventors and creators of new solutions. With the right ideation and development methods, people can find pathways for self-empowerment together with others who are experts for their respective specific skills. A popular development tool for processes of co-creation is found in inclusive, user-centered Design-Thinking processes in which users and others act together. In the right setting of openness, people can co-create whatever they find useful and whatever is needed. If people have specific needs for solutions, such spaces can be the right place to develop solutions tailored to the needs of the respective users. Moreover, when people create together with others (co-create), no matter whom, inclusive social innovation and empowerment become reality in an environment of mutual learning. This observation served as the starting point for the SELFMADE project and its inclusive MakerSpace focusing on co-creation together with people with (complex) disabilities.

AN ACCESSIBLE MAKERSPACE FOR INCLUSIVE PEER PRODUCTION

As stated above, MakerSpaces often represent spaces for creativity open to everyone. This generally inclusive approach offers leeway for self-empowerment. *However, how can making by people with disabilities be realized in respect of individual needs and capabilities?* Starting in 2017 and funded by the German Federal Ministry of Education and Research, the SELFMADE project aimed at developing new pathways for unleashing this inclusive potential of MakerSpaces for people with (complex) disabilities. While other makers around the world already focused (and still do) on the development of "assistive tools" [4] for people with disabilities

REALIZATION OF SELFMADE'S INCLUSIVE MAKERSPACE

EMPOWERMENT FOR PEER PRODUCTION

- Development of pathways to **empower persons with disabilities to become active producers** and distributors of goods and tools responding to their own needs
- Creation of an "**intermediate market**" of assistive tools to fill the gap between home-made assistive tools and commercial assistive tools, by linking individual persons with disabilities with large communities that offer long standing experience and models of "intermediate quality"
- **Bringing together persons with and without disabilities** in an inclusive maker space designed as a space for persons with complex needs
- **Empowerment** of persons with disabilities regarding the definition an production of individualized assistive tools

PRODUCTION OF ASSISTIVE TOOLS & PRODUCTS FOR PARTICIPATION IN EVERYDA LIFE

- **Production** of assistive tools for work, everyday life/leisure time and communication
- **Exploiting Social Innovation mechanisms** to improve the impact of 3D printing by people with disabilities. The maker spaces represent a social innovation that could be scaled out to other spaces and institutions; one aim of the project is to identify pathways of scaling the developed innovations and improving the project's impact.

CHECKLIST FOR ACCESSIBLE MAKERSPACES

The checklist was designed as a tool for checking and discussion:

Avoidance of barriers in addressing visitors:
- Use of diversity-sensitive language
- Openness for all visitors
- Creation of a respectful environment

Avoidance of spatial barriers:
- Access to the building (e.g. sign-posts, banking of the floor)
- Room design (e.g. necessary width of passages)
- Sanitation (e.g. access, necessary space)
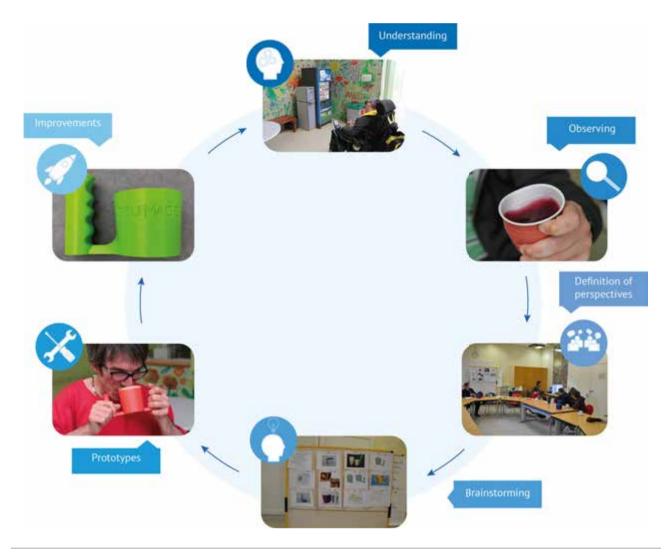
Avoidance of barriers in the making process:
- Development process (e.g. assistance, individualized options for interfaces)
- Information services (e.g. font sizes, contrast, plain language)
- Printing process (e.g. modified user interfaces)

Aims of SELFMADE (cf. [4, 5])

in general, SELFMADE wanted to emphasize the empowerment of individuals with complex disabilities. A main aim was therefore to co-create and produce individual assistive tools together with these people. These tools were designed to support and enhance everyday life, be it in leisure or working time. In line with this goal, the project aimed at an empowerment for peer production. Both aims were added with a strong focus on capabilities and accessibility. Therefore,

an accessibility factsheet for MakerSpaces was developed. Currently, this factsheet is available in the MakerSpace and an extended checklist enclosing additional criteria and findings is available, as well.

The activities of SELFMADE also enclosed the development and realization of a MakerSpace where people with and without (complex) disabilities can work, develop, create and

Iterative steps of the Design Thinking process adapted for SELFMADE's co-creation of user-centered solutions (cf. [4])

ideate together with others in an inclusive environment. To meet the capabilities and needs of people with (complex) disabilities, this MakerSpace was placed in the professional environment of a Service Center for Augmentive and Alternative Communication (AAC) in the city of Dortmund. The main focus of this space is currently 3D-printing as a major opportunity for creating individualized and relatively inexpensive, yet expedient, assistive tools and other objects.

DESIGN THINKING APPROACH

In co-creation contexts, design tools and methods are already well established. Besides other advantages, some of them enhance development processes by bringing in a user-centered perspective. This specific approach was considered a good entry-point for realizing an inclusive creation-process. A user-centered approach allows taking into account the perspective and, therefore, the needs and capabilities of a solutions' target-group. Moreover, when users are part of a creation-process from its very start to coming up with a solution, a pathway for empowerment and full inclusion in

the process is provided and realized. For SELFMADE, the design thinking approach [6] was adapted to the needs and capabilities of people with complex disabilities. To be clear: an inclusive Design-Thinking process as created for SELFMADE can be a pivotal element for user-empowerment. Hence, it was and still is key for enabling self-determined, inclusive making for people with complex disabilities.

A SCALABLE APPROACH

Of course, individual needs and capabilities demand individual pathways to peer production. At SELFMADE, a decision for a scalable approach was made. This approach encloses different levels of access, better tailored to

> An inclusive Design-Thinking process as created for SELFMADE can be a pivotal element for user-empowerment.

individual capabilities. Tested in the practice of the inclusive MakerSpace, a simple and effective solution proofed itself best. Since then, a shelf is used where already available solutions are presented to visitors and users.

Each object is added with an SD-card that has the necessary files needed for printing the respective solution. The scalability is found in a selection of pathways provided for users interested in printing the objects with or without assistance.

A NEW MARKET

As mentioned before, SELFMADE had the aim of contributing to the establishment of a new market for assistive tools. However, this potential needs some explanation. Currently, the markets for any kind of assistive tools are usually characterized by either professionalized or highly individualized, homemade solutions. Yet, the opportunity of creating sharable solutions is opening up another marketization strategy in between these two markets: individualized, non-professional solutions can now be provided to other users. While open-access provides a lot of potential to share these solutions for free, access to the necessary hard- and software will not always be provided to potential customers of this intermediary market. Therefore, SELFMADE aimed at contributing to the development of this in-between market as it would allow a broader public to benefit from individual and customizable solutions coming from MakerSpaces. While such solutions could be distributed for relatively low prizes, this strategy is also opening up a pathway for business-opportunities for makers who want to further develop and monetize their co-created assistive tools.

DIFFUSION OF INCLUSIVE PRACTICES: ADAPTION TO A NEW PROJECT FOR A BROADER TARGET-GROUP IN WORKING CONTEXTS AND BEYOND

The successful approach of SELFMADE points at the potential for inclusive societies found in respective making practices and their further diffusion to other contexts. Whereas SELFMADE – and the prosecution of the inclusive MakerSpace – put a strong focus on people with (complex) disabilities, the tools and approaches developed during the project's course can provide the concrete means to adapt the core idea to other contexts. In other words, the social innovation of inclusive co-creation oriented towards capabilities and needs in MakerSpaces also has a lot of potential for people with a need for assistive tools in general. Supported by social scientists, the successful approach and the practices established in SELFMADE were therefore adopted and modified for another German area: the Emscher-Lippe region – enclosing cities in the northern part of North Rhine-Westphalia, characterized by industrial transition. Here, the project Emscher-Lippe hoch 4 (EL4) (www.el4.org)

SELFMADE's scalable approach (cf. [4, 5])

was launched in 2018. In the framework of a broader goal of supporting digitalization in this region, the project aims at developing the area into a hotspot for practice and expertise in inclusive, individualized (social) innovation utilizing digital means. While SELFMADE and the established MakerSpace had and still have a focus on enhancing life quality across all areas of life, EL4 has a particularly strong focus on working environments. However, individual solutions created for this context are not always limited to usability at work. Moreover, some solutions can also enhance leisure time and tasks of everyday life beyond work. The successful adoption and modification of these inclusive

The shelf for a self-determined selection of already existing solutions

practices from one context to another is therefore a good example for not only the diffusion of social innovation but also its 'translation' to another context while keeping its core characteristics and its basic, successful, approach.

However, back to EL4's main focus: prior to the project, its partners found a strong need for assistive tools, made to support people at the workplace – for instance in work centers for people with disabilities or in the regular labor market. For coping with this need, the individually tailored and already successfully tested and refined approach of SELFMADE led to the key idea of creating a space for developing individualized assistive tools together with people who would benefit from these tools, ranging from (complex) disabilities to e.g. refractive errors. As the project is rooted in the context of a FabLab with its strong network and broad expertise, EL4 can also go beyond co-created solutions rooted in possibilities enabled by 3D-printing. In the FabLab context, more machines are available and, therefore, more opportunities for creative and individualized solutions are given. Laser-cutters, vinyl-cutters, 3D-scanners, VR devices and other technologies provide additional pathways. Furthermore, the participation of a FabLab adds to the worldwide movement of other FabLabs aiming at the inclusion of people with a need for assistive tools. Thanks to

already existing knowledge and experiences available in the strongly organized FabLab-network, this link is highly beneficial to the aims of EL4. Furthermore, the connection to this larger community is more than just a connection. In fact, it has to be seen as a pathway for inclusion and diffusion of underlying practices. When people with disabilities join FabLabs where makers from any context co-create, such FabLabs have the chance of becoming lighthouses and role-models for inclusion – and some already are. In this environment, the tools of SELFMADE and EL4 can be even further developed and brought to new contexts. Through EL4, the connection of SELFMADE's MakerSpace to the worldwide FabLab community is also established: as the inclusive MakerSpace is presenting an example of best practice, interested makers from this larger community are already visiting and consulting its staff. As a result, inclusive mutual learning is also established more and more and the concept and its innovative practices are starting to be diffused.

CONCLUSION

The practices established and diffused by SELFMADE and EL4 present a route for inclusion and empowerment through making in open, inclusive spaces. Such spaces serve as role models for inclusive environments as they are open to everyone and tailored to individual needs guaranteeing this access. Whereas marginalized groups in society are often facing barriers to accessing tools or services that significantly enhance everyday life, open access and peer-production provide possible solutions for overcoming such barriers even beyond the respective context of the aforementioned projects and MakerSpaces or makers in general. Practices specific to making could be translated to other contexts. While the open access approach is not specific to making, open access to self- and peer-production and inclusive co-creation can be identified as particularly typical for MakerSpaces. If the underlying core idea and the practices of access to technology and collaborative creation diffused to other contexts in a similarly consistent way as is brought to life in many MakerSpaces, a big step towards inclusive transformation would be made.

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SOCIAL INNOVATIONS IN THE URBAN CONTEXT: DIFFERENT TYPES OF LOCAL SOCIAL INNOVATIONS

Cities are the birthplace of most social innovations. This chapter describes which types of local social innovations exist and how they survive and spread. It points out that, although social innovation literature tends to highlight successful, scaled examples, many local social innovations neither scale nor survive.

Taco Brandsen / Adalbert Evers

INTRODUCTION

The effort to strengthen social cohesion and lower social inequalities is among Europe's main policy challenges. At the urban level, these great challenges become visible and tangible, which makes cities a microcosm of society. Local welfare systems are at the forefront of the struggle to address this challenge – and they are far from winning. While the statistics show some positive signs, the overall picture still shows sharp and sometimes rising inequalities, a loss of social cohesion and failing policies of integration and inclusion [1]. It is clear that new ideas and approaches are needed to tackle these very wicked problems.

Contrary to what is sometimes thought, a lack of bottom-up innovation is not the issue in itself. European cities are teeming with new ideas, initiated by citizens, professionals and policy makers. The WILCO project (www.wilcoproject.eu) examined 77 of such cases of social innovation, in twenty European cities, focusing especially on local welfare [2, 3]. In this chapter, we will discuss which types of local social innovations exist and how they survive and spread.

DIFFERENT TYPES OF LOCAL SOCIAL INNOVATIONS

In the WILCO project, we defined social innovations as ideas, turned into practical approaches; new in the context where they appear; attracting hopes for better coping strategies and solutions; and marked by a high degree of risk and uncertainty due to the specific context in which they appear. We grouped such innovations according to five dimensions that we regard as the most important recurring approaches

and instruments (for a freely downloadable collection of case descriptions: [2]). One initiative can incorporate several types of innovations. For example, the 'Young people with a future' initiative in Barcelona constituted both a service and a governance innovation.

> **European cities are teeming with new ideas, initiated by citizens, professionals and policy makers.**

1. Innovations in services and their ways to address users: The majority of the social innovations we studied were service innovations. Since personal social services are by definition a special form of social relationship between people, this is not a surprise. Moreover, services are more accessible to small-scale innovations by social entrepreneurs, groups of citizens and other change agents than most high-tech products. Innovations focused on investing in capabilities; open approaches avoiding targeting with stigmatizing effects; initiatives that bridge the gaps between professional services and people's life worlds; and services that connect separated forms of support and access, allowing for personalised support. A telling example was the project "Her second chance" from Varaždin (Croatia), which supported women and mothers experiencing special difficulties in acquiring competences and self-esteem in a way that might facilitate a re-entry into paid work.

2. Innovations in regulations and rights:
In addition to reinventing services, social innovations can also pertain to the rules governing such services. Innovations of this type included creating flexible forms of ad hoc support; developing offers beyond fixed social and

participation rights and entitlements that meet newly emerging risks; and working with "social contracts" for individuals and groups. A telling example was the targeted discretionary housing payment scheme from Birmingham (UK), which helped people on their way from welfare to work through time-limited payments that eased the costs of transition, e.g. in meeting rent arrears.

3. Innovations in governance:

Social innovations represent a combination of new "products" and new "processes" (including the internal organisation of decision-making and ways of interacting with the environment). Most innovations that aim at developing new kinds of services also have a governance dimension. For some innovations, this is a core issue. Governance innovations foster organizations or organisational units that operate in more embedded and networked ways; giving new concerns and groups a voice in the public domain; organizing more intense forms of public debate and opinion-building around challenges in public policies; and building coalitions and partnerships. Impressive examples in our sample were initiatives in post-socialist countries for and by mothers. Both the MaMa Foundation in Warsaw and the RODA initiative in Zagreb overcame the traditional restricted focus on getting the same role as men in a male-shaped labour market, by highlighting other concerns that were before seen as merely private issues, protesting against systems that showed little interest in the challenges of care and the difficulties of combining working and family life. Their actions gave caring tasks an upgrade in public and policy agendas.

4. Innovations in modes of working and financing:

These include flexicurity in labour contracts; levels of institutionalization and security below traditional standards; combining professional teams and voluntary commitments; defining strong mission profiles; and combining resources from different stakeholders. This often entails accepting worsening material conditions. For instance, innovative multi-stakeholder approach have often emerged in a chronically underfunded local public sector, making it difficult to differentiate between winning additional societal support and using local partners as a spare wheel. A good example were "Les compagnons bâtisseurs" (Companion Builders) in Lille, a social innovation supporting housing self-renovation—managing, training and supervising the implementation of a self-renovation process in a region where such practices have been marginal and unprofessional.

5. Innovations affecting local welfare systems:

Finally, we examined innovations that affected the broader development of local welfare systems. Such types of innovations encouraged less standardized, more diverse and localized welfare arrangements; a stronger community component in mixed welfare systems; and the integration of economic and social logics (entrepreneurial action, developmental welfare) and of welfare and urban politics. Good examples in which the public and community spheres were intertwined were the Neighbourhood Cafes in Lille, which opened up the tasks and concerns of family life to the community, and the Neighbourhood companies in Amsterdam, where a housing corporation decided to support the local community in self-organizing housing reconstruction. These initiatives challenged an understanding of welfare in which community was seen as a rather archaic and parochial element, to be substituted where possible by public provision, professionalism and/or entirely voluntary initiatives.

INNOVATIONS IN SERVICES
• Innovations focused on investing in capabilities
• Open approaches
• Closing the gaps between professional services and people's life worlds
• Connecting separated forms of support and access

INNOVATIONS IN RIGHTS & REGULATIONS
• Flexible ad hoc support
• Developing offers beyond fixed social and participation rights
• Working with social contracts

INNOVATIONS IN GOVERNANCE
• Foster organizations that operate in more embedded ways
• Giving voice in the public domain
• Organizing public debate and opinion-building in public policies
• Building coalitions and partnerships

INNOVATIONS IN MODES OF WORKING & FINANCING
• Flexicurity in labour contracts
• Levels of institutionalization and security
• Combining professional teams and voluntary commitments
• Defining strong mission profiles
• Combining resources from different stakeholders

INNOVATIONS AFFECTING LOCAL WELFARE SYSTEMS
• Less standardized, more diverse and localized welfare systems
• Stronger community component in mixed welfare systems
• Integration of economic and social logics
• Integration of welfare and urban politics

Five different types of local social innovations

THE SUSTAINABILITY OF LOCAL SOCIAL INNOVATIONS

In addition to analysing the types of emerging innovations, we also made some observations with respect to how they continued to develop. There is a tendency in the publicity on social innovation to discuss successful cases and those that are scaled up to a system-wide level. Based on our evidence, it must be concluded that the reality of local social innovations is a different one. The majority remain local and last only a limited number of years. The emphasis on success stories and scaling-up is an important one with implications for the direction of future funding, but it is equally important to realize that the majority of local innovations (especially those not originating in professional organisations) do not fit such a pattern of growth and that one should not disregard the cumulative effect of the many small, temporary initiatives that are of high value within their local context. Public policy should therefore not focus only on the selective group of innovations with a high growth potential, but also on the capacity of cities to continue generating many new initiatives of a highly local nature.

Of the innovations that we studied, the majority were either discontinued after a few years or faced an uncertain future in the short term. Cutbacks in public sector funding no doubt played a part in this, but the underlying structural dynamics, such as project-based funding, dependence on charismatic initiators and shifting political fashions, suggest that the underlying conditions are of a structural nature.

The most sustainable innovations were those that were either fully integrated into the local welfare administration or even initiated by the local authorities. Generally, local authorities tended to favour innovations that were complementary to their growth strategy, aimed at making the city more dynamic and attractive (e.g. urban gardening). This means that there is not necessarily a smooth fit between social innovation and economic growth agendas.

Another factor that affected innovations' chance of survival was whether they involved a wide coalition of parties. Such parties could include the third sector, local governments, businesses and groups of citizens. A broad alliance made it easier to sustain the innovation even when one of the parties (like the local authorities) withdrew its support. Highly vulnerable were those innovations, which were primarily dependent on European funds.

Finally, what also mattered to a large degree was the governance style of local authorities. Innovations could more easily gain recognition and sustainability where there was an open governance style, that is, where authorities proved open to contributions to local welfare by different parties. To some extent such openness appeared related to institutional factors, such as the level of decentralisation within the state structure and historical traditions of working with the third

sector; but it also depended on the nature of local politics, the prevailing discourse and availability of people who could act as 'boundary spanners', connecting institutional and life worlds.

THE DIFFUSION OF LOCAL SOCIAL INNOVATIONS

Another way for social innovations to gain a longer life is for them to be diffused to other cities and countries. Most of the publications on the diffusion of innovations are based on business contexts and on products, rather than services, which means that it is important to identify clearly how local social innovations are different. The nature of products made for the commercial market is that they are not made primarily for the local market, but deliberately designed to spread widely to other places. Local social innovations, by contrast, are usually initiated to solve a particular local problem. Wider diffusion is only of secondary importance to the innovators, if not irrelevant. The image of the highly visible entrepreneur giving TedX talks is, in this case, unrepresentative. By implication, it is especially important for this type of innovation to have intermediaries, who know the situation on the ground and assess what it takes for innovations to take root elsewhere. There was no evidence that EU channels played a significant role in this process.

> Local social innovations, by contrast, are usually initiated to solve a particular local problem. Wider diffusion is only of secondary importance to the innovators, if not irrelevant.

Unlike many products, which can shift places easily, social innovations have to be 'translated' to be effective elsewhere. It is rare to have a straight transfer from an idea from one place to another, although we did find some examples of this (for initiatives that were typically low-resource, low-skill). Approaches or projects will in some way need to be adapted to the context into which they are adopted. For instance, what is originally a project to keep young people socially active may elsewhere be justified with the discourse of unemployment or crime prevention. The shape of a collaborative arrangement may have to be altered, for example, because responsibilities for a certain policy area are distributed differently over governments at different levels, or because services are provided privately in the country and publicly in the other. The innovation will need to be re-shaped. The adaptation may concern the structure of an innovation, e.g. its formal organisational shape, but also the regulation that supports it, the instruments through

which it is implemented, or the discourse with which it is described and justified. Innovations are therefore usually hybrids of different ideas and inspirations.

Given that such a process of reconstruction and translation must take place, it requires new ways of collaboration, for example, between governments and citizens, and new ways of thinking. Our material shows that, in local welfare, this process does not start when an innovation is introduced, but usually well before that. Rather, it is the other way round: an innovation is adopted when minds are ripe. A good idea is not convincing in itself – it comes when people are open to it. What this means is that adopting an innovation from elsewhere is, from the perspective of the adopting parties, not fundamentally different from inventing one. After all, it requires similar breakthroughs in institutional routines, whether of content, collaboration, or other aspects of working. In that sense, there is interaction between innovations that target specific aspects of services or regulations, and those which aim at changing the nature of governance or of the local welfare system.

It means that the process of diffusion starts before the actual adoption of an innovation. Research on diffusion tends to focus on the process after the adoption, and then especially at successful cases of adoption. Yet the innovative capacity of a city is not only reflected in what is adopted (a specific approach to solving a problem), but also in the groundwork that is done before the adoption (getting the right people together, getting minds ready for new options). This is highly relevant to public administration reform, because it means that simply finding the right kinds of solutions is in itself not enough. It requires a different approach to governance.

CONCLUSION

Research on social innovation has progressed slowly in recent years, hovering unsteadily between abstract (meta-) theories and conceptualisations, a flood of interesting illustrative examples and a barrage of practical guidelines on a largely intuitive basis. It would certainly help if research on social innovation more wholeheartedly embraced failure and thwarted ambition. The road to realising social innovations is a rocky one and many are left behind. Our evidence shows that the failure of social innovations is in part due to widespread risk-averse attitudes when it comes to social experimentation. Despite paying lip service to innovation, authorities tend to prefer what is known and tested – be it in the tradition of state regulation and standard setting, or through a swing towards approaches that work well in the business sector. Innovations guided by other social values and assumptions than those prevailing traditionally in administrations and businesses (i.e. those which affect governance or local welfare systems more fundamentally) have a harder job surviving. They need supporters that show some readiness to take a risk and help to realize at least some kind of open space, some clearings within the otherwise rather dense jungle of regulations and standards.

In the face of innovations with the potential to revolutionize the economy and areas like labour market relations it would be silly to argue that new common rules and large scale regulations are not needed. Local social innovations, however, need another kind of state intervention. They are often dispersed and precarious. This calls for enabling policies that give room to experimentation and listen to the messages of innovators.

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BOTTOM-LINKED GOVERNANCE AND SOCIALLY INNOVATIVE POLITICAL TRANSFORMATION

The concept of bottom-linked governance, stressing the interactive relations between political authorities and civil society actors, is helpful in understanding and guiding the genesis of more inclusive governance at the local level. Ultimately, it may become essential in transforming the socio-political system in Western democracies.

Frank Moulaert / Diana MacCallum / Pieter Van den Broeck / Marisol Garcia

INTRODUCTION

As research work on social innovation (SI), territorial development and socio-political transformation has matured, the concept of 'bottom-linked governance' has become central to the analysis of SI initiatives. When the Social Innovation Action Research Network [1] started working on the relationship between SI and local development, its members soon became aware that democratic governance played a significant role in building socially innovative communities at the local level. The analysis of these interactive dynamics led the members of the network to conceptualise *bottom-linked governance* as 'new forms of democratic governance collaboratively built between SI initiatives and activists, their scalarly dynamic networks and state institutions and agencies' [2, Ch.4]. That is, bottom-linked governance involves time-space-specific forms of governance partnership between actors having different scales of influence. As such, it contains the potential to transform social relations and political practices across these different scales.

In this short paper we cover three issues. Firstly, we explain the significance of bottom-linked governance in territorial SI trajectories. Next, we reflect on experiences of bottom-linked governance in Antwerp, South Bronx and Barcelona. We conclude the paper with some brief observations on the socio-political context in which bottom-linked governance works and, while trying to avoid political naïvity, why its transformational potential is so important.

SITUATING BOTTOM-LINKED GOVERNANCE IN TERRITORIAL SI TRAJECTORIES

In previous work on SI at the local and regional level, we stressed the importance of analysing local development as a time-space sensitive process whose dynamics are driven by interactions between structures, institutions, culture and discourse, and socially significant agency [3]. SI means new types of agencies, institutions and governance working towards three key achievements:

- Satisfaction of basic individual and collective needs, particularly those neglected by mainstream political and economic actors;
- Improved social relations;
- Empowerment and mobilization toward socio-political transformation (enhancing democracy locally and beyond).

These achievements cannot be disentangled, because neither needs satisfaction, nor collective agency nor political transformation is possible without improving social relations through, for instance, rebuilding transparent communication and decision-making systems, solidarity, cooperation and redistributing economic as well as political power. Given the importance of building cohesive relations to achieving more democratic governance, bottom-linked governance has a central position in this interaction. It is key to the relationship between social and political change, being intrinsically social and political at the same time.

The concept of bottom-linked governance was coined in the course of the EC Framework 5 Project SINGOCOM and further developed in the Framework 6 project KATARSIS [5, 6] [1 for an overview]. Empirical analysis of multi-level governance dynamics shows that successful development can rarely be

classified as either 'bottom-up' or 'top-down', but rather as both shaping and shaped by new, dynamic forms of conflict and cooperation across scales. These observations led to the development of the ideas of 'bottom-linked' SI and bottom-linked governance, i.e. new forms of cooperation between actors and institutions across territorial scales in which policy (broadly defined) and other development practices are not dictated from any one level of governance but transformed and institutionalised through interaction and cooperation itself. The concept is important as a complement or even an alternative to that of bottom-up governance, which as an ideal has a number of politically ineffective features: a guileless faith that self-governance by itself will have a significant democratisation impact on relationships with the state (or a stronger belief that there is no need for a state); and a somewhat blasé and unreflective conviction that the political system and state apparatus will uncritically adopt or integrate the bottom-up decision-making mechanisms which civil society groups set up, that the neoliberal autocracy can be overruled by the multiplication of bottom-up governance initiatives – the 'naivety of the participation movement', as it is often called.

Governance modes can be considered as institutional forms, modes of governing with typical agencies emerging from and reproduced through the operation of the political, economic and social world. The democratisation of society, with a long evolution from the Enlightenment to post-Fordist neoliberalism, has gone through cycles of more and less democratic control by 'the people'. Since the 1970s, with the rise of neoliberalism in the political system, a new type of elite advisors and decision-makers has taken over from Fordist socio-political relationships of machine politics and clientelism. With these 'new' agents, new forms of technocracy, cryptically labelled as 'New Public Management', have pervaded socio-political governance systems, removing participatory decision-making power from those parts of the population most affected by recurrent economic crises. Bottom-linked governance can be seen as a proliferating reaction to these new types of autocracy.

In sum, bottom-linked governance addresses the concern that many new socially innovative initiatives are highly necessary but that their governance, as well as that of the relevant re-democratising state institutions, should be developed interactively. The image we should have of this interaction, however, is not that of an easy-going sweet romance, but a trajectory of co-construction and confrontation moments in which protest and conflict, as well as analysis, co-learning and negotiation, all have a role, as does the re-institutionalisation of relationships between state and civil society. Bottom-linked governance is both a key outcome of SI and a *sine qua non* for its durability.

BOTTOM-LINKED GOVERNANCE EXPERIENCES

To stress the socio-political significance of bottom-linked governance, we refer to experiences of local development where SI cum bottom-linked governance have been relatively successful. A few of the most successful social innovations seem to be: bottom-linked governance practices observed in several neighbourhood and community development projects; the repoliticisation of civic life in Spanish cities; the construction of 'social regions'; the development of community supported agriculture systems; and the politicisation of some transition towns. From this perspective, the recognition of the agency of civil society in multi-scalar governance is important, yet should be considered with care so as to prevent civil society's organisations becoming co-opted or forcing them to "reduce their imaginative potential, to bridle their creativity or their subversive capacity" [6, p.216].

In this brief text, we consider three meaningful cases: the Neighbourhood Development Association BOM (Antwerp, 1990-2005; for more information and sources: [3]), South Bronx Unite (New York) and the political 'rise' of the anti-eviction movement in Barcelona [2].

NEIGHBOURHOOD ASSOCIATION ANTWERP (BOM)

The Buurtontwikkelingsmaatschappij Antwerpen (BOM) or Neighbourhood Development Association in Antwerp was one of the most visible bottom-linked initiatives in a Western European bigger city as part of the so-called urban 'social' regeneration movement supported by the EU and many national states in the EU in the 1990s. BOM took on the main agency role in building a neighbourhood development strategy, and was one of the action research experiences which inspired the Social Innovation Action Research network in its definition of SI and bottom-linked governance. Starting from an emancipatory view of community-based neighbourhood development, it led the city to form a bottom-linked cooperative arrangement in which BOM and local government agencies took on complementary roles in the domains of planning, development of public space, creation of different initiatives in the labour and housing market, etc. BOM did not survive the new wave of neoliberal urban policy which prioritised real estate development and market-geared economic initiatives to so-called social economy and territorially based community initiatives. Yet many of BOM's initiatives were institutionalised into the city's or the region's housing and labour market policy.

SOUTH BRONX UNITE (NEW YORK, USA)

South Bronx Unite (SBU) is fundamentally a political project with its roots in the environmental justice movements of the 1980s and the civil rights and protest movements of the

1960s-70s, and influenced by the shifting political climate that gave rise to the Occupy movement. SBU is enabled by a strong existing assemblage of progressive organisations in the South Bronx, many of which are now active supporters (financially and/or politically) of SBU's work. Extreme economic and environmental vulnerability has shaped a strong sense of social purpose for a number of grass-roots movements and organisations working to resist perceived threats including, for instance, eviction of public housing tenants, displacement of traditional small businesses, gentrification, pollution, youth alienation, and more.

SBU is a fluid and somewhat anarchistic movement ('without a chief'), empowering motivated participants to act on their own beliefs. Yet its practice comes quite close to what we have identified as bottom-linked governance. In its current incarnation, SBU provides a network node for activism and concrete avenues for connecting political with practical action. Through its advocacy planning activities, it translates political claims into community-based, environmentally just development policy, and creates possibilities for the institutional realisation of the resultant plans.

ANTI-EVICTION MOVEMENT IN BARCELONA, SPAIN

Barcelona and its Metropolitan region are probably among the most prominent contemporary living laboratories showing how social and political worlds influence each other and how social movements can become not only co-creators but also catalysts of new styles of political leadership. In the resistance movements against fascism, the seeds of a strong and proactive social fabric were sown. Since the return to democracy in 1979 in Barcelona the trajectory of 'civil society action' has sought socially productive synergies with the local and regional governments, thus co-creating a new system of 'governance beyond the state'. Yet reforming the state has been among the main ambitions.

The return to democracy brought with it the election of leftist governments in most of the municipalities of the Barcelona metropolitan area. A grand project united civil society organisations and progressive political parties around an agenda of decentralisation of government, democratisation of planning and welfare institutions and a policy of redistribution of wealth. This socio-political front crumbled after 2010 when the socialist party became an actor in the austerity policy in Spain subsequent to the financial crisis of 2007. The Partido Popular took office in 2011, but the stiffest austerity measures were taken by the Catalan government of the nationalist Convergencia I Union in the period 2010-2017.

Crisis and policy led to severe poverty and homelessness. This new reality gave a new impetus to social mobilization and organization in the 15-M movement that exploded in the major Spanish cities, in which the Anti-Eviction Movement and other social movements and associations played a determinant role. It wasn't until 2011–2012 that these movements and associations translated themselves into a political force. Estimates say that between 6 and 9 million people living in Spain were involved in demonstrations, public fora, occupation of public spaces and squats; the 15-M movement also triggered similar movements abroad. In Barcelona the mobilisation was politically effective and led to creation of the political party *Barcelona en Comú*. The spokesperson of the Platform for Mortgage Affected People (PAH), Ada Colau, was elected Mayor of Barcelona in 2015 leading a minority government that took on board significant parts of the agendas of the 15-M movement concerning housing for all, municipalization of water supply, greater accessibility of public services and especially more effective participation of citizens in public governance. The Colau government was not an absolute success story and had to institutionalise more than the bottom-linked grassroots movements supporting it had wished. In May 2019, Barcelona en Comú lost the elections by an inch. A coalition with the Socialist Party was formed, with Ada Colau remaining mayor. The real challenges for the next governing period will be whether the housing and social policy claims which stirred the grassroots movements will be met; and whether the other party in the coalition (PSC) will revive the Pascual Maragall bottom-linked practice of the late 1980s early 1990s and reinforce the bottom-linked politics which Barcelona en Comú had put into practice.

SOCIAL-POLITICAL OBSERVATIONS

We consider bottom-linked governance to be an essential element in the process of badly needed socio-political transformation. Especially across the Western world, where after WW II democracy had gradually but definitely put foot ashore, in recent decades people have increasingly become aware of their loss of grip on the socio-political process, especially at the supra-local level. As individuals many politicians are perceived to be acting in their personal interest rather than that of the public. As systems, political regimes at all scales have become impregnated by a market fundamentalism that has relegated the originally fundamental foci of democracy to the background. General interest and citizenship rights for all have become hollow or partitioned. For instance, in many countries liberal democratic governments have granted rights to minority groups, which is to be applauded; but because of the gradual infusion of market fundamentalism into the citizenship agenda citizenship rights have been diminished – liberal democracy has washed away some of the essential functions of the welfare state. The only policy recipe that remains intact for neoliberal governments is that privatization and market freedom will solve all problems. Socio-economic history since the 1970s has shown the failure of this recipe.

Flexibilization of the labour market was supposed to provide new job opportunities for the poor, but it has made them poorer instead. Bank crises caused by speculation and aggressive mortgage marketing were 'solved' by blocking credit to lower income classes and abandoning investment in social housing. Investment in the 'green economy' was to lead to lower ecological footprint, but instead has boosted electricity consumption and the cost of energy.

It is the tangible lives of real people that these failures of the economy, the political regime and the actual policy making hurt deeply. It is also at that local and experienced level that socio-political transformation starts. Local bottom-linked governance reveals the real needs, shows the failures in local political institutions and lays out the experiments of new inclusive politicization. Which does not mean that higher scales in the state apparatus would have a smaller role in the future, but rather points to how these state institutions should go through a process of renewed mediation between direct and representative democracy.

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THE TRANSITION MOVEMENT AND SOCIAL INNOVATION

The Transition movement is a form of community activism that is both a social innovation itself and experimental space for new social innovations. Whilst it has successfully diffused to other regions and contexts an ongoing challenge is the sustaining of local initiatives over time.

Noel Longhurst

INTRODUCTION

The Transition movement (TM) is a social movement that emerged following the launch of the Transition Town Totnes (TTT) project in September 2006 in the town of Totnes, UK. The movement primarily consists of a network of place-based Transition Initiatives (TIs) where local participants collaborate on projects which are intended to enhance 'local resilience'. A TI involves groups of activists who organise various projects within a locality, the overall purpose of which is to contribute to a Transition towards a more localised, post-fossil fuel society. The primary focus is to encourage a community-based form of experimentalism in developing a wide range of activities whilst also promoting a shift in people's values and behaviour. Fundamentally, the 'Transition' approach is an optimistic and creative form of community activism which positions itself as distinct to confrontational forms of environmental activism [1].

> **The 'Transition' approach is an optimistic and creative form of community activism which positions itself as distinct to confrontational forms of environmental activism.**

SOCIAL INNOVATION AND THE TRANSITION MOVEMENT

The TM has an interesting relationship with social innovation. Firstly, the Transition 'model' can be understood as a form of social innovation itself: it is a novel form of community-based organisation that attempts to engage communities in

addressing sustainability challenges and empower them to establish new grassroots projects. From this perspective one of the interesting things about the TM is that it is an example of how such grassroots social innovations can now spread rapidly via the internet in the web 2.0 era, the governance challenges that this creates, and the way in which the model is adapted as it 'lands' in new geographical and cultural contexts. Secondly, the Transition approach itself is explicitly designed to create forms of grassroots experimental space from which other social innovations might emerge. It does this by creating a supportive and permissive local culture in which participants feel able to experiment with novel ideas. These different aspects of its relationship with social innovation are explored more in-depth in the following sections.

THE DIFFUSION OF GRASSROOTS SOCIAL INNOVATION

The initial emergence of the TM was very much motivated by the issue of 'peak oil'. Rob Hopkins was teaching Permaculture in Kinsale, Ireland, when he met Colin Campbell, a retired geologist who was a peak oil activist, hence part of an 'outsider' movement arguing that global supplies of oil and related hydrocarbons were close to the point of maximum supply. Those subscribing to this perspective argue that such a peak would have profound consequences for humanity, particularly in the energy intensive Global North. Influenced by these arguments, Hopkins worked with his students to develop an 'Energy Descent Action Plan' for Kinsale, which detailed how the town could adapt to life with less oil. This work provided the seeds for the Transition model and, following his return to the UK, Hopkins launched the TTT project in September 2006. Since its inception, Transition has also positioned itself as a response to climate change, arguing that it is an approach that is relevant to both societal problems. Most recently, Hopkins positions Transition as a

third alternative economic strategy to either 'Austerity' or the 'Green Deal', in other words: "local resilience as economic development" [1]. This increased focus on the economic justification and implications of Transition is one of the important ways in which the overall movement has changed since its inception.

Following the establishment of TTT, TIs began to appear spontaneously, first in the UK, and then in other countries. Hopkins describes the spread as like 'mycorrhizal fungus' which pops up in places that you don't expect [2]. At the most recent estimate there were over 1,000 local initiatives across several continents and likely to be others doing work that is inspired by Transition which are not formally registered. The spread of the Transition model was facilitated by the Internet and in particular the Transition Culture blog that Rob Hopkins wrote daily for the first couple of years of TTT and which developed a significant following and profile. Other social media such as YouTube, Facebook and coverage in 'old' media also contribute to its diffusion. In the first few years the TM formed close links with other elements of the peak oil movement, for example writers such as Richard Heinberg and peak oil forums such as the [now dormant] Oil Drum website. The spread of the model was also facilitated by a Transition Training 'world tour' which, in late 2008 and early 2009, visited seven different countries in four months, delivering a number of training sessions. There is a perception, amongst the core activists at least, that it spread through the English-speaking world first, before the ideas were translated into other languages, normally by volunteers who set up websites and translated key documents such as the Transition primer. The first national hubs were established in Ireland and New Zealand in 2007. Since then over 20 national hubs have been established and the hubs have emerged as a distinct level and set of actors within the overall movement.

THE GROWING COMPLEXITY OF AN INTERNATIONAL GRASSROOTS MOVEMENT

The popularity and rapid diffusion of the Transition model caught the initiators of TTT by surprise who had not really planned or anticipated how rapidly the model would spread. Consequently, in 2008 the Transition Network (TN) was established as a registered charity in order to support the diffusion of the Transition model. TN undertakes a number of network specific activities in its aspiration to be a 'catalyst' for the TM. [3]

- **Training:** Training has always been an important part of the Transition model. Transition Training was one of the ways in which the model originally diffused internationally. TN oversees the training activities of the movement including accrediting trainers and expanding the training function via 'train the trainer' activities.
- **Communication:** e.g. via the website.
- **Media:** Supporting the development of two Transition films. Publication of Transition related books.
- **Tools:** Providing a suite of resources that can be used by TIs. Providing guidance on the steps that can be taken by different TIs.
- **Consulting:** A separate company does Transition consulting, including Oil Vulnerability Analysis – a tool developed early on in TTT.
- **Research:** Co-ordinating and supporting research into the TM. There is a separate research network which involves academics sympathetic to the TM.
- **Events:** Organising conferences and other one-off events.
- **Providing support:** Especially at the national and regional level.

These roles and aims outline the way that TN attempts to support the development of the movement whilst also maintaining some kind of control over the core tenets of what Transition entails. TN attempts to ensure that Transition is a non-prescriptive process, for example one of the principles set out in the first handbook was to let initiatives follow their own interest. However, it is clear that there are some boundaries to the experimental space that is created, and there is a certain degree of structure and prescription within the core texts and guidelines on how to run a TI and which allow things to be recognisable as 'Transition' related [4]. The 'boundaries' of Transition are maintained in a number of ways including through the principles that the official TIs are expected to adhere to, and the Memorandum of Understanding that National Hubs are encouraged to sign up to. Policing the boundaries of what constitute 'Transition' has become a key role of the TN, what is described as protecting the 'DNA' or 'Source code' of Transition. Overall, the principles and guidelines are intended to give a certain degree of flexibility but keep initiatives true to the overall ambition of the approach.

The Transition Network has itself evolved significantly since its inception in 2007. What started as a fairly loose group of activists who functioned in a fairly reactive way, has become more professionalised, strategic and internationally focussed in recent years. Since 2012 there have been regular meetings of the international hubs, organised and supported by TN, which seek to support collaborative working, whilst exploring their role in the movement and relationship with TN. Whilst they are playing a growing role in the governance of the TM as a whole the hubs also play an important role in the further spread of initiatives within their own specified territories. One important aspect of this international diffusion of the Transition model is the different way in which it is being re-embedded in different territories. So, for example, in Brazil it is being used as a community development tool within the favelas and also by a community of rubber tappers in the Amazon Basin who are using the approach to think about how their community can be more sustainable. These are very different contexts to the primarily middle-class environmental activist context which predominates in the UK, where Transition activities are targeted more at fossil fuelled over-consumption.

In terms of conceptualising the relationship between the key different 'levels' of the movement, the Transition Network has developed the image below, which focuses on three specific levels: local initiatives, regional/national networks, and the TN itself [3]. The circles of various sizes represent the different Transition initiatives, the smaller ones being local initiatives and the larger ones regional initiatives. TN is the white encircling ring which acts as a 'cell membrane' and provides a critical catalysing role that defines the identity of the whole and supports its over growth.
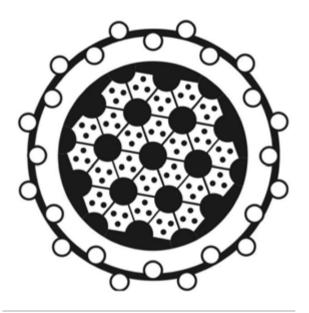

Diagram representing the Transition Movement

CREATING EXPERIMENTAL SPACE

Once established at the local level, TIs create the space for participants to experiment with social innovation. This space is created through the combination of a particular narrative of social change with a set of processes of community organising.

The Transition narrative suggests that social change can be facilitated by community mobilisation. To justify this approach, it integrates a wide range of ideas including for example system thinking, permaculture and eco-psychology. In particular it attends to both outer (systemic) change and internal (personal) change. The power of imagination and positive visions are an important part of this mobilisation process. These ideas are materialised in books, on websites, in films and in other documents and forms of media.

The organisational practices inform not only how a TI itself should be organised, but also how projects should be managed and are reflected throughout the movement as a whole. Transition is explicitly designed to be a non-hierarchical model that allows participants to pursue their own interests. There is also a focus on how meetings and events should be facilitated so that they are productive and engaging, drawing on a number of participatory approaches such as 'Open Space'. By providing an empowering narrative of change and supportive organisational and cultural practices Transition equips participants with the permission to experiment and to manifest practical examples of the positive futures that they envisage. It does this by embracing the possibility of failure and not placing excessive demands on the success of projects and providing a supportive collective space for experimentation. A good example would be the Transition related community currencies which first emerged with the Totnes pound in 2007 and then spread to other TIs, the model evolving in scale and sophistication as further currencies were launched. Experimentation has taken place across a range of domains such as energy, food, health, transport and the creative arts.

The Transition model has always been explicit about the fact that it was intended to be an experimental process, with a 'cheerful disclaimer' that there was no guarantee that it would succeed. However, the model itself is not static and as the movement has grown so too has the model evolved. This is perhaps not surprising, as it has been likened to a form of open source software insofar as it can be used and adapted by its users.

> **Transition is explicitly designed to be a non-hierarchical model that allows participants to pursue their own interests.**

CONCLUSIONS

This chapter has outlined the significant relationships between the TM and social innovation. Firstly, it is an example of how social innovations can spread rapidly in the Internet age, and how such diffusion can create governance challenges for those who are trying to maintain some kind of control over the innovation whilst also allowing it to evolve in new contexts. Transition is also unusual in that it is a form of social innovation that is intended to create experimental space from which new innovations can arise. Importantly, these facets are also interlinked, for example the visibility of projects aids the diffusion of the model. One final observation is the fact that the TM also illustrates the difficulty of maintain grassroots social innovation over a longer period of time. It is evident that there are three kinds if initiatives. Those that are thriving and active, those that are 'ticking over' and those that have entered some kind of hibernation. In older initiatives there are experiences of burn out and difficulties in getting new people involved which are not uncommon in community-based activism. Within the movement itself there has been a growing recognition that

the effectiveness and longevity of TIs and projects can be limited by a reliance on voluntary labour. There has therefore been an increasing focus on the potential of social enterprises, co-operatives, community own businesses and other forms of micro-enterprise that enable Transitioners to earn a livelihood whilst also contributing to the Transition. This shift is reflected in the emergence of the *REconomy* project which explicitly focuses on the economic side of Transition. Best understood as a 'spinout project' of Transition as a whole, it has worked with some UK initiatives (including Totnes) on issues relating to local economic resilience. The extent to which these efforts are successful is likely to shape the future of the movement.

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This chapter draws in part on Longhurst/Pataki, 2015 [2]

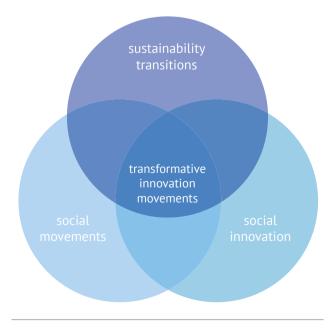# HOW TRANSFORMATIVE INNOVATION MOVEMENTS CONTRIBUTE TO TRANSITIONS

Transformative innovation movements create new ways of doing, thinking and organizing with transformative ambitions. They challenge existing systems through (1) prefiguration, (2) socio-material innovation across domains, (3) translocal empowerment, (4) a diverse repertoire of actions and (5) strategic collaboration across movements.

Flor Avelino / Lara Monticelli / Julia M. Wittmayer

TRANSFORMATIVE INNOVATION MOVEMENTS: BRIDGING THREE FIELDS OF RESEARCH

Numerous initiatives worldwide aspire to contribute to transformative social change towards more sustainable, resilient and just societies. In this piece, we focus on *transformative innovation movements* and their potential to contribute to such sustainability transitions.

The notion of 'transformative innovation movements' builds on three fields of research: social innovation [1, 2], sustainability transitions [3] and social movements [4, 5].

Positioning transformative innovation movements in three fields of research

We define social innovation as changing social relations, involving new ways of doing, thinking and organizing [1, 2]. Social innovations are 'transformative' to the extent that they challenge, alter and/or replace dominant structures and institutions in the social context (ibid). Social movements have been defined as (a) mostly informal networks of interaction, based on (b) shared beliefs and solidarity, mobilized around (c) contentious themes through (d) the frequent use of various forms of protest [5]. By combining elements of the abovementioned concepts and underlying fields of research, we characterise **transformative innovation movements** as:

- informal networks of interaction with a shared identity that mobilize collective action around common themes, by:
- changing social relations and creating new ways of doing, knowing and organizing,
- and that have explicit ambitions to contribute to sustainability transitions by challenging, altering and/or replacing dominant institutions and structures (i.e. the dominant ways of doing, thinking and organizing).

COMMUNITY ENERGY, ECOVILLAGE MOVEMENT, IMPACT ENTREPRENEURS & PARTICIPATORY BUDGETING

In this piece, we explore how transformative innovation movements mobilize and contribute to sustainability transitions by discussing four case studies:

1. **Community energy movement** – diverse initiatives of citizens and entrepreneurs producing and consuming (i.e. 'prosuming') their 'own' energy, locally, regionally and internationally cooperating through networks such as e.g.

the European federation for renewable energy cooperatives (REScoop);

2. **Global ecovillage movement** – hundreds of ecovillages around the world experimenting with new ways of living in harmony with nature and each other, connected through the non-profit organization Global Ecovillage Network (GEN) and in several regional and national sub-networks (e.g. GEN-Europe, GEN Netherlands, etc.);

3. **Network of social 'impact' entrepreneurs** – a network of impact entrepreneurs, organised in local 'Impact Hubs' (combining elements from co-working spaces, innovation labs and business incubators) in over 100 cities across the world, globally connected in the international Impact Hub network;

4. **International movement of participatory budgeting** – informal network of citizens, communities and municipalities that aim to involve citizens in deciding how (local) public money is spent and prioritized, as part of a broader movement for promoting participatory democracy as represented by e.g. the International Observatory for Participatory Democracy (OIDP).

Each of these cases includes both informal networks as well as formalised organisations, but differ in their institutional orientation (see infographic *Four Transformative Innovation*). Participatory budgeting, for instance, is clearly focused on increasing democracy in the public sector and involving citizens in (local) government spending, while the global ecovillage movement is much more focused on the informal community sphere and the Impact Hub network operates in the context of a market logic. The movement of community

energy is primarily characterised by non-profit organisations and hybrid organisational forms such as cooperatives and social enterprises.
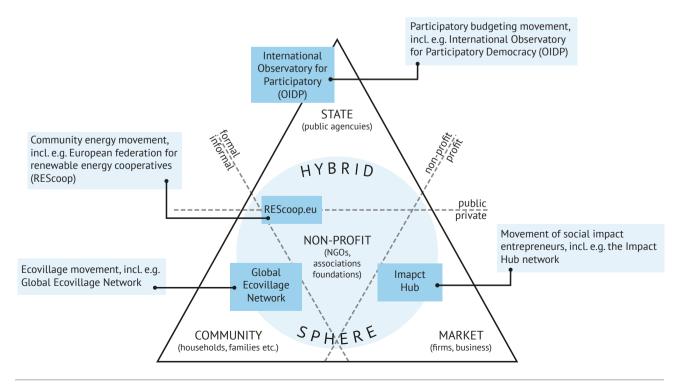
Despite the different organisational and institutional logics underlying these movements, and their differing foci and transformative ambitions, they share some important commonalities, including the way they contribute to transformative change.

HOW DO TRANSFORMATIVE INNOVATION MOVEMENTS CONTRIBUTE TO TRANSFORMATIVE CHANGE? FIVE HYPOTHESES
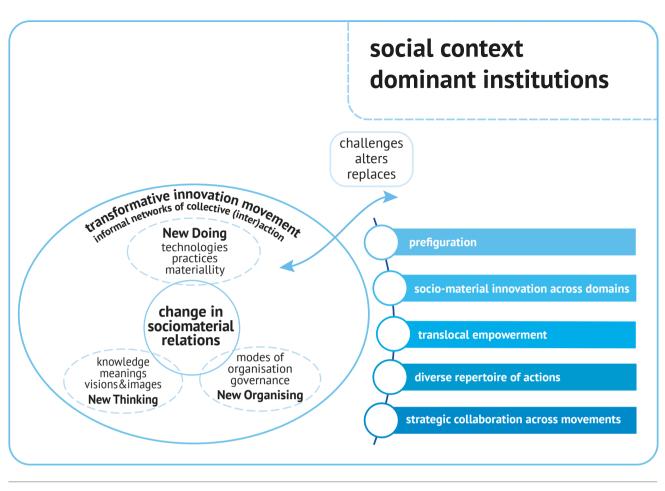
Based on insights from researching these movements [2, 1, 4], we identify five hypotheses on how transformative innovation movements contribute to sustainability transitions. We now shortly discuss each of these five hypotheses.

Hypothesis 1: Prefiguration

Roughly speaking there have been three waves of social movements: the class-based movements in the 19th century, the new-social movements of the 60s and 70s, and the alter-globalization in the 90s and early 2000s. Since then, it is possible to observe the emergence of a new wave of prefigurative social movements that "live and strive to reproduce in the present the kind of society they envision for the future" [4, pp. 509-510]. These movements are embodying

Four transformative innovation movements and examples of international network organisations

How transformative innovation movements contribute to transformative change (five hypotheses)

their vision of the future in their material and social practices. In this way, they re-think and re-politicise patterns of production and consumption, work, social relations and social reproduction by "restoring and creating spaces of resistance and experimentation" [4, p. 509; p. 515].

The four transformative innovation movements all engage in such processes of prefiguration (although, not exclusively – see also hypothesis #4). Prefiguration is an important way in which they challenge existing systems, by providing living proof that there are alternatives to these dominant structures and practices in e.g. energy, housing, entrepreneurship and democracy.

Hypothesis 2: Social and technological, i.e. 'socio-material' innovation across domains

Transformative innovation movements create 'innovation' since they change social relations, involving new ways of doing, thinking, and organizing. All of the four movements that we have looked at, take a rather 'holistic' approach to change and innovation: they do not only focus on technological or ecological dimensions, but also on political, cultural and economic dimensions. This is why we frame them in terms of 'socio-material innovations', rather than just 'technological' or 'social innovation'.

This holistic approach to innovation is an important way to challenge, alter and replace existing systems, because it enables the movements to tackle multiple systems at the same time and to challenge the functional segregation often dominating those systems. For instance, community energy does not only challenge the dominant socio-technical system of centralised energy-production based on fossil fuels through its focus on decentralized solar or wind energy production. It also challenges underlying political and economic structures by introducing alternative business models and organisational forms such as energy cooperatives.

This holistic approach to innovation is an important way to challenge, alter and replace existing systems, because it enables the movements to tackle multiple systems at the same time and to challenge the functional segregation often dominating those systems.

Hypothesis 3: Translocal empowerment

Another aspect characterizing transformative innovation movements is that they are 'translocal': globally connected and locally rooted, which is particularly empowering for the individuals involved. Building on social psychology and self-determination theory, empowerment can be conceptualised in terms of autonomous motivation along six dimensions, namely a sense of autonomy, competence, belonging, impact, meaning and resilience [1]. Translocal connections increase collective empowerment for collective action in that they do not only provide access to resources, but also enable people to gain a sense of autonomy, competence, belonging, impact, meaning and resilience both at the local and translocal level.

Translocal networks are an imperative factor for members of these movements to experience a sense of impact and increased access to resources. Often these members cannot gain access to resources within the context of existing structures and institutions from which they – by definition – wish to deviate. Hence, gaining access and a sense of impact through a translocal network may provide an alternative to lacking institutional support. This may be one way in which transformative agency can develop despite of the unfavourable power dynamics that transformative innovation movements face in current economic and socio-technical systems.

Hypothesis 4: Diverse repertoire of actions

While prefiguration plays a prominent role in these transformative innovation movements, they also engage in a whole range of other actions aimed at transformative change, such as protest, lobbying, training and campaigning, thus blending of contentious, strategic and prefigurative actions [4]. People living in ecovillages, for instance, are often also involved in environmental protest movements (e.g. residents of Tamera ecovillage organising a protest against fracking in Portugal), while at the same time, the Global Ecovillage Network is also cooperating with other networks and lobbying for community-oriented policies at e.g. the European Union level. This diverse repertoire of actions enables movements to deal with the paradoxical tensions that are inherent to processes of innovation and change, where the diffusion of innovation often comes at a cost of its innovativeness. The challenge for innovation movements is to translate their innovations and radical ideas to the mainstream context, while at the same time nurturing and preserving their radical core. In this sense, transformative innovation movements are characterized by a constant tension: on one side, the need to scale up and, on the other, the willingness to avoid co-optation.

Hypothesis 5: Strategic collaboration across movements

Another important way in which transformative innovation movements challenge, alter and replace dominant ways of doing, thinking and organising, is through strategic collaboration across movements. One example of such collaboration is ECOLISE, the European Network for Community-led Initiatives on Climate Change and Sustainability (www.ecolise.eu), in which the global ecovillage movement collaborates with other movements such as the transition towns movement and the permaculture movement to influence policy-making within the European Union and to organise events for the general public such as the annual ECOLISE day for sustainable communities.

Although transformative innovation movements already demonstrate strategic collaboration across movements, we also argue that such strategic collaborations are still under-developed and that there is much potential for more mutual recognition and strategic collaboration. Movements and their respective initiatives and organisations are often focusing on their own strengths, choose their own battles, and fight over scarce resources in order to survive, instead of stressing their complementarities and collaborating. There is a need to support more meta-networks (networks of networks) and spaces for encounter and reflection amongst movements, including constructive confrontation and debate.

TOWARDS INTER & TRANSDISCIPLINARY RESEARCH ON TRANSFORMATIVE INNOVATION MOVEMENTS

The final hypothesis on the need for strategic collaboration amongst different movements, also leads to our concluding call for more inter and transdisciplinary research on transformative innovation movements that can bridge across research fields such as sustainability transitions, social innovation and social movement studies. While it remains important to acknowledge and scrutinize the differences between contentious and prefigurative actions, between social movements and innovation initiatives, it is equally crucial to explore how and to what extent these different phenomena coalesce in intersectional collaboration. Whether or not we conceptualise them as 'transformative innovation movements' (something to be debated), the goal is to be able to interpret the empirical phenomenon of those social movements that are using socio-material innovations to contribute to transformative change.

Academic researchers can play an important role in co-producing the narratives of how bottom-up movements contribute to innovation and transformative change, also to counter-balance the predominant focus on business-led or government-led innovation and transition policies. Producing and disseminating alternative narratives on how innovation and transformative change comes about, is in itself an important dimension of how dominant ways of doing, thinking and organizing can be challenged, altered and replaced [2].

Academic researchers can play an important role in co-producing the narratives of how bottom-up movements contribute to innovation and transformative change, also to counter-balance the predominant focus on business-led or government-led innovation and transition policies.

Our call for a more inter- and transdisciplinary narrative is not only about doing research or storytelling, it is also about informing and inspiring concrete actions: How energy is produced, how start-ups are born, how better and fairer products are made, how new houses are built, how community-gardens are set-up, and so on. Different movements have different stories, ranging from changing economic models and redesigning products, to political activism, lifestyle change and inner transformation. Acknowledging their value and researching these real life stories is essential to challenge the 'there-is-no-alternative' mantra that has dominated the political and media landscape in the last thirty years. As stated by the makers of the *Atlas of Utopias*, who aim to encourage and spread insights from transformative and innovative movements: "A better world is not only possible, it is already happening" [6].

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AWAY FROM HOME: HOW SOCIAL INNOVATIONS RESPOND TO MIGRATION

How is social innovation assisting in tackling the needs of migrants and refugees, as well as of the host and sending societies? At the present time, war and terrorism are the headline grabbing migration drivers, but the universal desire of people to achieve a better life is the main underlying cause.

Jeremy Millard

WORLDWIDE PHENOMENON

The United Nations show that the number of forcibly displaced people worldwide reached over 65m in 2016, the highest since 1945. Of these, 22m were refugees, 2.8m of whom were asylum seekers with the others being displaced persons within their own countries. [1] Second only to the environmental crisis, the World Economic Forum describes large scale migration as the greatest global risk. [2] Whilst recognizing this risk, the European Commission notes the huge benefits migration brings to host nations if it happens in a way that takes account of the needs of sending, receiving and transit countries, as well as of the migrants themselves. The arrival in Europe of over 1.2m first-time asylum seekers in 2015, more than double that of 2014, should be seen in this context, although numbers have dropped sharply since then. [3]

REACTING RAPIDLY TO THE 'URGENT CHALLENGE' OF MIGRATION RESULTS IN HUGE VARIATION

Despite this long history of migration, but in clear response to its recent upsurge, the involvement of most actors, including social innovators, has tended to be reactive rather than proactive over the last few years. However, research has shown that there has been a rapid response by social innovators attempting to meet the multiple and acute needs of both migrants and the societies into which they arrive. This has resulted in social innovations tackling migration that are considerably more diverse in terms of organisation, action taken and impact than most other types of social innovation. [4] This clearly results from how the 2015 'migration crisis' impacts different countries in different ways

due to their individual geographic positions, domestic policies and civil responses. Thus despite the long history of social innovations, migration requires new solutions, reflected in the fact that most initiatives are still at a relatively early and experimental stage with limited widespread impacts to date. [4]
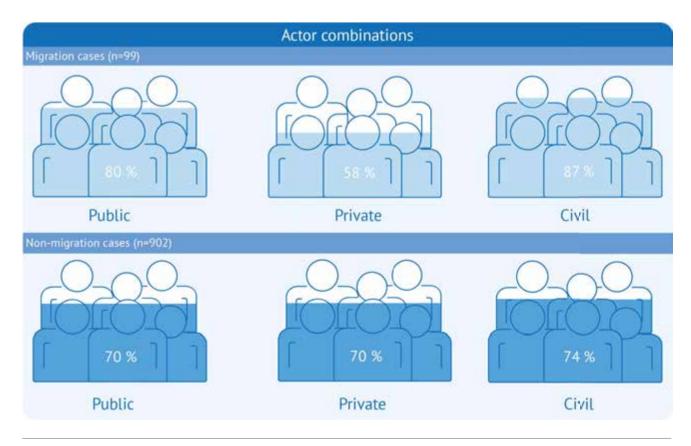
> There has been a rapid response by social innovators attempting to meet the multiple and acute needs of both migrants and the societies into which they arrive.

WHOSE NEEDS ARE BEING ADDRESSED?

The evidence provided by the SI-DRIVE (www.si-drive.eu) project indicates that migration-related social innovations having the most widespread success and impact are able to address multiple needs, e.g. when directly serving the needs of both the host society as well as of the migrants themselves. This is illustrated by four examples [4]:

• The **Learning Circles for Displacement (Colombia)** initiative targets children in vulnerable situations, like forced displacement due to recent armed insurgencies, who are likely to be living in poverty and to have higher rates of school disturbance or absenteeism, often because they have to work or care for family members. These children are included actively as participants at the centre of an education model in which teachers act as guides rather than knowledge or authority figures. The children are placed in groups of 12 to 16 and then subdivided into

shared round tables of up to six where they receive personalised and relatively intensive attention. Many of the country's education institutions provide spaces and resources for the purpose of assisting their successful transition into the formal system after 1-2 years, thereby also improving the functioning of the overall education service and causing much less stress on the host society. This learning circle model for vulnerable migrant populations has expanded across many regions of Colombia as well as in many other countries.

- **Scattered Hospitality (Italy)** aims to support refugees and tackle the lack of temporary housing facilities they experience by accommodating them with local families in their own homes. The initiative assists both the hosting family and refugees through financial support as well as social and supervision services in order to help refugees through the difficult transition between the asylum request and starting an independent life in European society which is the longer-term aim. This family hospitality, lasting between 6 to 12 months, provides stability to build a network, improve knowledge and capacities and to find a job. For the host families, it is an opportunity to experience multi-culturalism and solidarity in their own homes and to better understand and empathise with the plight of many refugees. The initiative started in the city of Turin and was then adopted as a model by the Italian Government in 2014 under its national SPRAR and CAS Programmes.

- **Taste of Home (ToH) (Croatia)** draws on the cooking and gastronomic, as well as language, skills of refugees to assist in their economic emancipation as a part of their intercultural inclusion and integration into the host society. The initiative seeks to provide pathways both for immigrants and host populations to interact in a positive shared atmosphere, whilst enabling immigrants to develop marketable skills they can use to become full economic contributors and beneficiaries. It started as a culinary-cultural-research project that introduced the culture, customs and societies of origin of refugees by recording their memories of home and the smells and tastes of their cuisine in an experiment in sharing life stories and culinary skills of both refugees and the host population. The model has developed from its origin in the town of Pakrac through cooperation with the national NGO Centre for Peace Studies, as well as both the Croatian and Slovenian Platforms for Solidarity and International Cooperation by setting up in Zagreb and in a restaurant run by migrants in Ljubljana, as well as with the European network for development cooperation. There has also been a growth in partners over time, but typically in a quite unstructured manner attempting to respond to rapidly changing challenges as well as opportunities as these arise.

- **Neighbourhood Mothers (Denmark)** supports isolated immigrant women in Copenhagen by offering information and support relevant to their own personal situation, their family and children. Such women typically have little
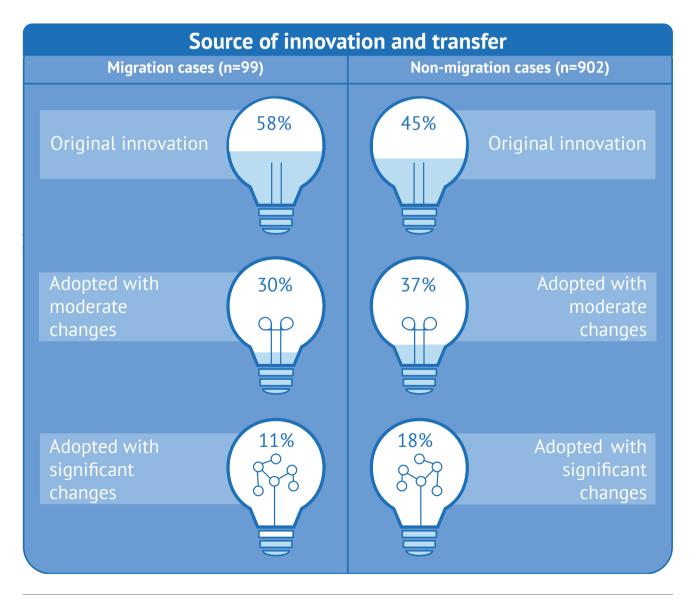
Selected characteristics of cases tackling migration: Actor combinations [4]

knowledge of Danish society, are challenged by the Danish language and may distrust official institutions. The neighbourhood mothers are themselves mainly volunteers with the same cultural and linguistic background of those they are helping, so the initiative is in effect an example of a vulnerable immigrant group helping itself using its own resources and capacities. They receive basic training around the themes of family, health, society and the methods they use through strong personal involvement, building bridges between those they are helping and the authorities and other groups, as well as networking in the local neighbourhood and more widely. Although basically still a bottom-up locally-resourced initiative, funding also now comes from the Ministry of Social Affairs and Integration, a philanthropic foundation and Copenhagen Municipality.

> **Civil society is by far the main actor in social innovations tackling migration.**

IMPORTANT COMMONALITIES IN SOCIAL INNOVATIONS FOCUSING ON MIGRATION

As the above examples show, civil society is by far the main actor in social innovations tackling migration, whether locally, regionally or nationally, much more so than most other types of social innovation. [4] Migration initiatives often arise from significant volunteer input, normally but not always initially supported by public policy and resources, and/or strong pressure groups able to persuade governments or philanthropic organisations to fund them, with local governments and civil organisations typically acting at local level. In contrast, private sector actors have been much slower to get involved, mainly because of the unstable nature of many social innovations tackling migration and the increased likelihood of controversy and political difficulties that can ensue. Migrants and refugees are sometimes equated with new types of challenges that need tackling, even extended to the perceived associated threats of terrorism

Source of innovation and transfer

Migration cases (n=99)	Non-migration cases (n=902)
Original innovation — 58%	45% — Original innovation
Adopted with moderate changes — 30%	37% — Adopted with moderate changes
Adopted with significant changes — 11%	18% — Adopted with significant changes

Selected characteristics of cases tackling migration: Source of innovation and transfer [4]

and the instigation of 'de-radicalisation' programmes in some European countries.

A complementary pattern is provided by the innovation sources and types of transfer that characterise social innovations addressing migration compared to non-migration cases. These are more likely than other types to be original, one-off and home-grown, designed and developed to address a very specific and typically unique challenge. Similarly, migration-related social innovations are less likely to be adopted from examples elsewhere, reflecting their relatively more recent provenance

> **If you want to find the solution to the problems of refugees, you have to talk to refugees, not talk about refugees.**

that limits the time and energy needed for inter-case learning. The first trigger of many of these cases is often the result of pressure from local civil society groups, citizens and movements able to persuade governments and/or philanthropic organisations to provide funding and support. [5] Inclusion, gender, equality and diversity issues also tend to be more important in driving many of these cases compared to the average. For example, at a 2017 migration workshop in Berlin, it was made clear by one of the presenters that "if you want to find the solution to the problems of refugees, you have to talk to refugees, not talk about refugees". [6]

SOME LESSONS LEARNT

Important lessons can be drawn about successful migrant-related social innovations. First, the local level is often best able to respect the human rights and local cultures of all actors including those of host societies. This includes understanding that the problems and needs of actors mutate over time, especially in the context of wider societal developments and their changing relationships. A strong vision and clear long-term goals are also needed, as is taking a holistic people-centred as opposed to siloed approach. Overall impact can be considerably increased by addressing

the needs of the host society as well as those of migrants. Being very quick to experiment and adapt is also important as challenges and opportunities change very fast, as is deploying democratic processes through advocacy, dialogue and networking. Complementary innovations are often important as these can help tailor the innovation as precisely as possible to local acceptance of multi-culturalism and of 'outsiders'. It is also useful to undertake agile organisational innovations to meet fast changing needs, as well as to deploy simple, cheap but powerful ICT and social media applications that can be readily used by ordinary people.

Success is also promoted by individuals and groups working closely together and building strong local, national and international networks, including with public bodies and linking to policy programmes. Given the need for significant funding, it is necessary to find good and consistent sources, either from public bodies or philanthropic and other funders. Despite pressing needs, it can sometimes be difficult to identify and engage with the displaced and refugees, for example because of uncertainty, lack of identity, language and cultural issues, as well as the possibility of negative backlashes from elements in society.

In terms of impacts, migrant-related social innovations generally exhibit low overall transfer success compared to the average, probably because on-the-ground challenges are so distinct and complex, and that in the last few years there has been a dramatic rise in the need for innovation that just keeping abreast of change is difficult. However, within a specific national policy and regulatory context, there can be highly successful transfers, whilst good basic ideas can also provide international lessons. Such transfer has tended to take place, not so much through the efforts of local actors, perhaps because of the pressures they face during displacement and refugee crises, but more by external actors through their wider networks.

A highlight lesson is that the existing experiences, assets and competencies of the migrants and refugees themselves, despite their vulnerable situation, can be key to success. However, further developing these competencies and aligning them as far as possible into the host society, so they become complementary rather than in opposition to each other, is often crucial.

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SOCIAL INNOVATION IN SOCIAL WORK

Social work as a profession and discipline is committed to social change and development. There is a long tradition of innovation in social work: changing social problems demand for new and novel approaches and services. Social innovation in social work is characterized by ethical foundation, cooperation between practice and science, cooperation with civil society, organizational framework and a high sensibility for innovative risks.

Anne Parpan-Blaser / Matthias Hüttemann

INTRODUCTION

With the emergence of the welfare state and promoted by social legislation a new professional sector developed and became known as social work. Social work – understood as a skillfully provided service framed by the welfare state – was without precedent, spread rapidly and opened up new fields of action and thus was an innovation in itself.

> **The innovative power of social work has also significantly stimulated societal innovations as social planning, family counselling, prevention, or the paradigm shift from integration to inclusion.**
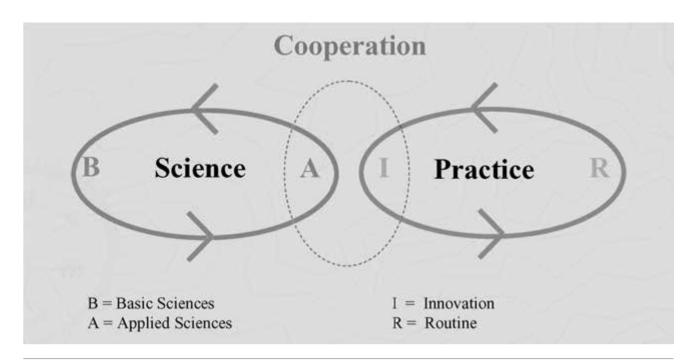
Social work is a "profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work" [1]. Social work has proven its innovative potential time and again (e. g. school social work, supported education and employment for persons with cognitive disabilities or other handicaps, women's shelters, crisis intervention services). The innovative power of social work has also significantly stimulated societal innovations as social planning, family counselling, prevention, or the paradigm shift from integration to inclusion.

General characteristics of social innovation include complexity, riskiness, reflexivity, unpredictability and limited controllability, diversity and heterogeneity of the involved parties, non-linear patterns as well as a high degree of context and interaction dependency. Innovations in social work show further important characteristics, which will be described below. We consider innovation in social work as a variant of social innovation that is characterized by the participation of social work professionals in the innovation process. In order to mark the difference between social innovation and innovation in social work, we will speak of innovation in social work when it comes to novel developments in social work.

ETHICAL FOUNDATION

As a welfare profession, social work is value-driven. Innovations in social work can arise if central social values such as social justice, social integration, participation, etc. are not adequately met. Innovative strength in the social sphere and, as a consequence, social cohesion and the well-being of individuals, depend on investments that seek to bridge the gap between values and their realization. This ethical foundation enables offers to eligible target populations, e.g. the equalization of disadvantages for people with a disability, which may not be justified on economic grounds. Normative framing has also a limiting effect, since the type and scope of services offered must not exceed a justified need. The guiding idea behind the development of new services is to meet a given need in the most qualified, effective, differentiated, or tailored way possible as to secure a regionally appropriate provision of social services.

Cooperation between science and practice

COOPERATION BETWEEN SCIENCE AND PRACTICE

The relation between profession and scientific discipline is another guiding motive of social work that has a strong impact on the innovation topic. In technological fields, close links between science and practice are widespread. Suitable forms of social research also support innovation in the social system. Science and practice are structurally related and work together in cycles, but represent distinct social systems [2].

The mediation and original combination of knowledge may be regarded as a central defining feature of innovation, alongside the recombination of social practices. In science-practice cooperation different types of knowledge (e.g. implicit, narrative, explicit) are combined and new, hybrid forms of knowledge emerge.

LEVELS

Nicolls and Murdock [3] suggest that differences in the positioning of the social aspect of innovations are analyzed by taking into account the actors involved in the process. An analytic framework proposed to do this is the well-known triad including a social macro, meso and micro level, which can be extended by a nano level:
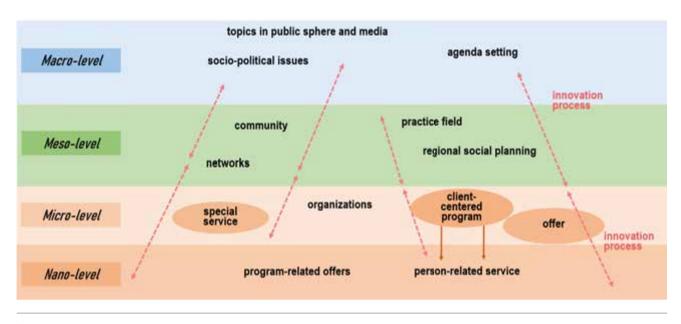
- Macro-level: Innovations on this level are socio-politically intended changes involving social work (e.g. drug policy in Switzerland). Linking micro- or meso-social initiatives with political agenda-setting can lead to profound changes in the field of practice, the community or to restructuring of the national system of social care.

- Meso-level: Networking and coordination can lead to the establishment of new practices in the regional context and to changes in the social planning (e.g. participative neighbourhood development).
- Micro-level: Niches that offer freedom to test radical innovations and the area in which individual client-centered projects and services are created. Innovations at the organizational level can also be located here (e.g. new forms of housing for ageing people with cognitive disabilities).
- Nano-level: Program-related offers and the interactive creation of person-related social services are subjects of the nano level. Social work services are essentially provided in personal processes, with a simultaneity of production and consumption. The desired results cannot be achieved without the participation of service users. This becomes clear, for example, in blended counselling.

The levels are interconnected: Processes on one level can influence or trigger processes on another level depending on context conditions, in both directions. If so, a time lag is to be expected in the sense that for example, a claim made by civil society actors increases the pressure on institutions to make changes to their target-group-related offerings.

CIVIL SOCIETY, COOPERATION WITH NON-PROFESSIONAL ACTORS

The role of civil society actors and the cooperation of social work professionals with voluntary and non-professional forces is also crucial. Andion et al [4] examined which actors mobilize around a social problem and mapped public arenas.

Analytical framework for analyzing the interrelations between different levels

The authors underline that in order to understand the dynamics of social innovation, different levels of analysis must be combined. In addition, medium-term effects have to be considered to adequately map and analyze social innovation (in conjunction with social work), as it is more than the co-design and improvement of public services: It has a high political significance in the sense that social problems mostly have both, an individual and a structural dimension, which implies that innovations in social work not only aim at a better, more effective and precise addressing of a social problem, but at best also have an impact on the causes of the issue.

ORGANIZATIONAL FRAMEWORK

On the one hand, innovation in social work is linked to changing social and political processes, and on the other hand mostly takes place in institutionalized contexts of organizations. These organizations are embedded in country-specific and regional structures of social care and social policy. While some may be integrated into public administration financed by public subsidies, others operate within the framework of non-profit organizations financed by donations or other private funds. The division of labor and forms of cooperation between professional and non-professional actors also vary from country to country.

The innovativeness of organizations may be limited due to tendencies towards self-preservation. In principle, however, innovation is possible in any organizational context, provided that the specific constellations (e.g. with regard to the actors within the organization or in the political context) and influencing factors (favorable conditions, hindering factors) [5] are taken into account in shaping the innovation process.

RISKS

Since social work services often address vulnerable groups, risks of negative effects on the safety or the quality of the user's lives arise. This imposes special limits and a considerable sensitivity to taking innovative risks in the social sector. However, maintaining the status quo or refraining from innovative developments can also be a risk or a disadvantage for those affected. Secondly, if risks for users cannot be ruled out, ethical considerations as well as appropriate phasing (e.g. establishment of a model phase, test phase) and development controls increase their manageability. However, there are also other risk areas: The logic of accountability and the fact that social work usually does not generate its own economic returns also requires a sensible approach to financial risks. Explicit risk capital (e.g. by foundations) can be seen as a solution to cushion innovative failure.

RESEARCH

Innovation in social work must be considered a hitherto scarcely researched subject. In methodological terms, innovation is a rather unspecific social work research subject. However, some approaches such as explorative and single case studies, multi-method designs, participatory, cooperative, and learning approaches are particularly suited to the characteristics and the current state of innovation research in social work. Since social work ultimately aims to support self-determined life conduct, the benefits, use and role of users require special attention. User research and user-led research provide points of reference in this respect. The consideration and empirical investigation of innovation in social work is so far mostly related to projects and processes mainly situated on a microsocial level. Empirical

work in the future should turn more towards the influence of different governance models on social innovation and on innovation in social work. In addition, it should concentrate beyond development on implementation, impact and diffusion [6] and thereby capture medium-term impacts on the entire social system.

CONCLUSION

The Vienna Declaration assumes that the most urgent and important innovations of the 21st century will take place in the social sphere. Social work undoubtedly contributes to innovation in the sense of the declaration by productively addressing the challenges of new social problems, changes in the needs of its target groups and the opportunities offered by new empirical findings. Innovation in social work is therefore both an object of innovation research and a methodical approach, i.e. a bridging concept between science, professional practice, service users as well as other interest groups around a social problem.

The melioristic approach to improving social coexistence is inherent in both social work and the concept of innovation. This should be reflected not only in the efforts of stakeholders to address social needs in a more qualified, differentiated and appropriate way, but also in their commitment to a more participatory, equitable society.

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MULTIFACETED SOCIAL INNOVATIONS TACKLING FOOD WASTAGE FOR SUSTAINABLE DEVELOPMENT

Food loss and wastage is not only a major environmental, social and economic problem, but also a crucial ethical issue. Social innovation initiatives that are emerging in different contexts try to minimise losses while simultaneously raising awareness to overcome the knowledge gap associated with the social, ecological and economic consequences of our eating habits.

Olatz Ukar / Héctor Barco / Marta Enciso / Antonia Caro

INTRODUCTION

According to data, the current problem of undernourishment is far from diminishing. In the medium term, the number of people in the world suffering from hunger will increase to 821 million in 2017, and is expected to rise to 2.3 billion by the year 2050 [1].

These predictions contrast with the fact that one third of all food produced globally is lost or wasted due to the misuse of resources — not just food-related resources, but also other basic resources such as land, water, energy and, of course, labour. Consequently, the generation of food wastage also results in environmental degradation, especially due to the loss of biodiversity, reduction of hydric resources and an increase in greenhouse gas emissions.

In developing countries, food supply chains are short and small-scale farmers dominate the production with limited access to resources and technology. However, 50 % of the world population lives in urban environments and this figure is expected to increase to 68 % by 2050 [2]. According to Soma [3], this rapid urbanisation gives rise to a more complex, long-distance food supply chain and poses significant challenges to the sustainable management of food wastage. In this context, the food distribution points, more connected with rural areas and the food demand, linked to the fast-growing urban areas, are moving away from each other. As result, the challenge of conserving and managing the food products and the risk of producing food wastage along the agri-food chain is also increasing.

The larger the agri-food chain, the less efficient it becomes in terms of food wastage and other environmental impacts, such as carbon and water footprints. Food wastage along the supply chain depends on numerous factors, i.e. technology availability in each country or the development level of agricultural production markets [4]. As shown, urbanisation and the decline of the agricultural sector are among the most important challenges we face at a global level.
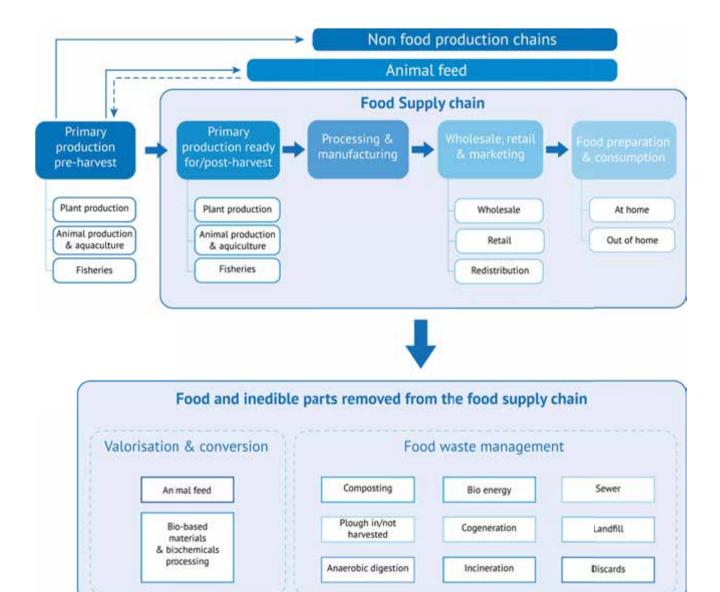
> **Urbanisation and the decline of the agricultural sector are among the most important challenges we face at a global level.**

Nevertheless, new ways of understanding the agri-food chain are emerging thanks to innovative social and technological solutions and the development of good practices in this field.

STRATEGIES OR FRAMEWORK CONDITIONS TO REDUCE FOOD WASTAGE

According to the European Commission's understanding social innovations are new ideas that meet social needs, create social relationships and form new collaborations. These innovations can be products, services or models that address unmet needs more effectively. These new combinations of social practices in certain areas of action or social contexts are driven by relevant actors with the aim of better satisfying or responding to needs and problems based on established practices. An innovation is therefore social insofar as it is socially accepted and diffused in society, and ultimately becomes institutionalised as a new social norm [5].
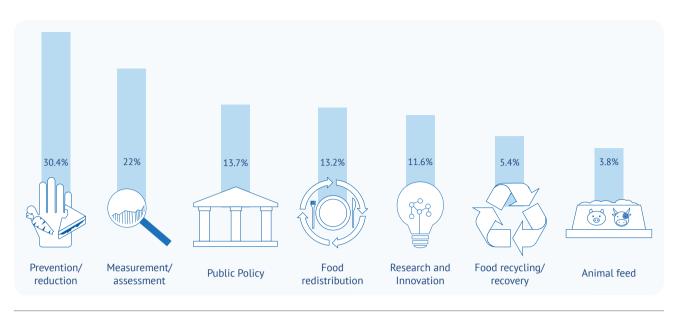
Resource flows in FUSIONS agri-food system

Following the key elements of the definition, reducing food wastage will be crucial in order to diminish its current environmental, social and economic consequences, and influencing the system via real and innovative good practices within both local and supra-local contexts will be imperative. In this sense, the European Parliament's Resolution of 19 January 2012 on *"how to avoid food waste: strategies for a more efficient food chain in the EU"* (2011/2175 (INI)) outlined the need to promote locally based good practices to reduce food wastage.

Parallel to this normative work, in 2012, the EU-funded project "Food Use for Social Innovation by Optimising Waste Prevention Strategies" (FUSIONS; www.eu-fusions.org/) created a European platform of multiple actors pursuing the prevention of food wastage through social innovation solutions.

Among the main recommendations of the FUSIONS project [6], the need was highlighted to stimulate social innovation as a key tool for reducing food wastage through the following four main lines of action:

• Create a favourable legislative framework at European and national level that stimulates social innovation, especially in the key aspects: food distribution, food safety, environmental health, commercial regulations and taxation.
• Develop guidelines for political intervention that promote social innovation to support food wastage reduction.
• Develop guidelines to promote the economic sustainability of the different innovative social actions.
• Encourage the creation and extension of a food surplus exchange network through exchanging social innovation good practices.

30.4%	22%	13.7%	13.2%	11.6%	5.4%	3.8%
Prevention/ reduction	Measurement/ assessment	Public Policy	Food redistribution	Research and Innovation	Food recycling/ recovery	Animal feed

Classification by topic

The initiative to create communication platforms among different agents was reinforced by the European Commission communication on *"Closing the loop – An EU action plan for the Circular Economy"* (COM (2015) 614 final) promoting the creation of a platform dedicated to food wastage (www.ec.europa.eu/food/safety/food_waste/eu_actions/eu-platform_en) as a place to exchange experiences and good practices as well as to create a list of initiatives, classified according to different categories.
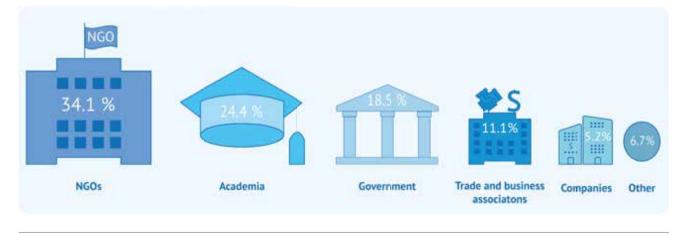
This initial work is being completed thanks to the contribution of the EU-funded project, REFRESH, continuing the work of FUSIONS, and the establishment of the so-called REFRESH Community of Experts (CoE) in charge of monitoring and rising awareness of this important issue.

According to the REFRESH CoE analysis [7], there are several social innovation initiatives associated with different areas of intervention.

30 % of the developed initiatives aim at wastage prevention and reduction. Another significant percentage of the initiatives (22 %) work towards quantifying wastage, while just over 10 % are dedicated to redistribution, research and development of public policies. Of the initiatives dedicated to prevention, approximately half of them aim at developing awareness campaigns and the other half at introducing improvements in the supply chain.

Furthermore, the majority of the food wastage activities (34 %) are carried out by NGOs (non-governmental organisations), while universities and government activities follow with 25 % and 19 % respectively. Surprisingly, trade and business associations are promoting only 11 % of the total initiatives and individual companies support the remaining 5 %.

As shown, the redistribution of food is mainly aimed at donation, while recycling-related actions are devoted to making compost. On the other hand, most activities related

34.1 %	24.4 %	18.5 %	11.1%	5.2%	6.7%
NGOs	Academia	Government	Trade and business associatons	Companies	Other

Classification by actors

Classification by Topic	Distribution of Initiatives
1. Prevention/ reduction	
Awareness campaign	58.2 %
Supply chain efficiencies	41.8 %
2. Food redistribution	
Food donation	45.7 %
Gleaning	10.9 %
Guidelines	28.3 %
Logistics	15.2 %
3. Animal feed	
4. Food recycling/ recovery	
Composting	50.0 %
Anaerobic digestion	25.0 %
Industrial uses	25.0 %
5. Measurement/ assessment	
Attitudes	18.7 %
Behaviour	22.0 %
Impacts	18.0 %
Food wastage data	26.7 %
Quantification methodology	14.7 %
6. Public policy	
Date marking	16.9 %
Food donation	19.5 %
Public procurement	2.6 %
Fiscal incentives	3.9 %
Voluntary/ framework agreements	24.7 %
Regulatory frameworks for food wastage prevention	15.6 %
Agriculture	13.0 %
Fisheries/aquaculture	2.6 %
Trade	1.3 %
7. Research and Innovation	
Packaging	21.9 %
Products	24.7 %
Supply chain	35.6 %
Food processing	17.8 %

Distribution of initiatives per topic (own elaboration – source taken from REFRESH project)

to public policies aim at facilitating agreements within the framework of volunteering, whereas others aim at food donation, followed by date marking, agriculture and regulatory frameworks for food wastage prevention.

A number of relevant social innovation actions addresses the reduction of the current food wastage ratio throughout a change in the food system, acting from different contexts and approaches. These social innovation activities were selected to demonstrate the wide variety of diverse approaches that can be used to solve the same problem. In this sense, there is a voluntary agreement between private companies within the agri-food sector, public administrations and NGOs, titled the *Courtauld Commitment*, which highlights that it is possible to manage current surpluses in a more sustainable and social manner.

EXAMPLES OF SOCIO-DIGITAL INNOVATIONS PREVENTING FOOD WASTAGE

Digital tools are also relevant in reducing food wastage. Three examples were collected to emphasise that it is not only technologically possible to link food supply with demand, both between citizens and citizens (*OLIO*) or companies and citizens (*TooGoodToGo*), but that it is also important to communicate that food is a valuable resource and sharing food covers economic, societal-cultural and environmental aspects in a mutually reinforcing way. As such, simply measuring food wastage in a company generates social, environmental and economic benefits, as shown by the case of *WINNOW*, which demonstrates that environmental protection is not at odds with job creation, but precisely the opposite.

Furthermore, it is important to highlight the creation of networks between local people with the clear ethical purpose of self-organising and achieving positive outcomes for the territory, as in the case of *Foodsharing*, thereby avoiding food wastage and creating the possibility of sharing these surpluses between neighbours.

Another different approach to solve this problem is to increase community awareness regarding the issue of food wastage – some initiatives like *Feeding the 5000* try to capture public attention by hosting public feasts made entirely from food that would otherwise have gone to waste.

Beyond new technology, or new ways of solving the problem, an interesting solution based on recovering ancient traditions is helping to reduce the challenges associated with food wastage. This is where the example of gleaning activities comes in, where two innovation campaigns, *Feedback* and *Espigoladors*, based in UK and Catalonia (Spain) respectively, are promoting this age-old tradition that involves citizens collecting leftover crops from farmers' fields that would otherwise rot on the ground. One of these

	INITIATIVE TYPE	DESCRIPTION	URL
COMMITMENT	Courtald Commitment	Agreements between companies and entities working in the agri-food chain are helping to reduce current food wastage figures in the United Kingdom	http://www.refreshcoe.eu/resources/courtauld-commitment-2025-review-released/
APP	OLIO APP TooGoodToGo	These two apps allow food to be donated from people and local companies that have produced surplus products to citizens that are interested in these products	http://www.refreshcoe.eu/resources/olio/ https://toogoodtogo.es/es
SOFTWARE	WINNOW	WINNOW is a software that helps the food service industry to cut down on food wastage by making the kitchen smarter, thanks to measuring the food wastage generated by said kitchens on a daily basis	https://www.winnowsolutions.com/
NETWORK	FoodSharing	Website created and managed by the users themselves in order to facilitate a distribution network of surpluses between companies and individuals	https://foodsharing.de
AWARENESS	Feeding the 5000	This initiative hosts events in large cities around the world where people have the opportunity of a free feast in the open air with ingredients that come from surplus products. Other activities related to this issue are also organised as part of these events (e.g. talks, free distribution of imperfect fruits and vegetables)	https://feedbackglobal.org/campaigns/feeding-the-5000/
CLEANING	Feedbackglobal	Citizen movement that collects agricultural products which are not collected for various reasons and therefore do not enter the agri-food chain. Gleaning these products makes them available to people	https://feedbackglobal.org/
	Espigoladors	NGO collecting food from local farmers to be transformed to create new value products. This initiative is creating new workstations, especially for those who are most vulnerable.	http://www.espigoladors.cat/es/

Examples of social innovation activities related to food wastage

campaigns has succeeded in improving the legal framework conditions for fostering gleaning activities within the territory as a useful way of reducing current food wastage ratios.

As shown, there is no unique path in addressing the problem of food wastage, in using the most recent technologies or in returning to old and forgotten traditions, as with gleaning activities, for example. Ultimately, changing the current food chain should happen through a combination of diverse social innovative solutions with the aim of modifying local contexts in line with the 'Think Globally, Act Locally' principle.

CONCLUSIONS

Given the complexity of food wastage, no single solution can solve this problem and actions must be undertaken at different levels. Policies form part of this combination of interventions, together with other, broader social, technical and economic initiatives (e.g. projects reducing food wastage at farms or throughout the food production chain).

> **Given the complexity of food wastage, no single solution can solve this problem and actions must be undertaken at different levels.**

Socio-digital innovations are significant tools in facing the challenges of food wastage through multifaceted approaches, which often require social or behavioural changes towards more sustainable options (e.g. citizens' initiatives to channel food wastage to other uses or consumers). However, there are still many challenges to tackle — there is no authentic community of good practices to facilitate the flow of information between the different actors. This is necessary to achieve a true dialogue between them, and in this way be able to face common challenges such as the economic sustainability of these initiatives or the replicability of these good practices in different territories and/or contexts. To this end, advancing the creation of a European and national regulatory framework that could encourage the implementation and development of these innovative initiatives will be an essential aspect for consolidating social innovation as a key element for reducing current food wastage.

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CO-DESIGN FOR SOCIETY
IN INNOVATION

Co-creation ecosystems are essential for the development of social innovation and its contribution to Public Engagement and Responsible Research and Innovation. This article introduces the project SISCODE, highlights preliminary findings and elaborates the project's ambition to create interactive playgrounds for better connecting bottom-up initiatives and top-down policy making.

Alessandro Deserti / Jennifer Eckhardt / Christoph Kaletka / Francesca Rizzo / Eva Wascher

INTRODUCTION

Both science and society proved to benefit widely from social innovation research and practice in recent years, not at least through one of its core elements: finding solutions to new and old problems in alliance with all actors concerned in a co-creative manner. Ecosystems, understood as specific combinations of contextual factors moderating the solution-finding processes, play a crucial role in this context. In parallel to the developments in social innovation practice and research, the concepts of Public Engagement (PE) and Responsible Research and Innovation (RRI) gained more and more recognition. PE and RRI have emerged, in the last decade, as the results of policies and initiatives demanding the early involvement of multiple actors, including the public, in science and innovation. Nevertheless, the early engagement of actors faces several difficulties, and PE rarely goes beyond early stages of consulting citizens and beneficiaries and roughly collecting their needs. This is because the integration of co-creation in European STI policy and programmes faces barriers such as a scarce and diverging understanding of co-creation among researchers and policy makers, and a lack of effective knowledge to cope with constraints that hamper co-creation-processes in practice. A striking common goal on the three dimensions mentioned (social innovation, PE and RRI, STI policy) is therefore to seek for effective ways to engage users and beneficiaries in their processes of creating solutions for pressing societal demands.

> **A striking common goal is to seek for effective ways to engage users and beneficiaries in their processes of creating solutions for pressing societal demands.**

At this point, the introduction of design methodologies and tools is emerging as a valuable approach to deal with these challenges, as design has already been recognised as key to operationalize co-creation in different fields. Thanks to an iterative four-step process, co-design effectively supports co-creation to move from the ideation of new solutions and policies to their implementation. Starting with an initial phase of **understanding** all parties involved over to a joint **ideating** of new products, services or solutions an experimental stage of **prototyping** helps to adapt and refine the ideas. This goes hand in hand with **verifying** the solution for its practicability and a repeated restart until the solution is finalized.

Especially in policy making, co-creation is presumed to be able to create an "enlargement of the opportunities for civic collaboration, including citizens, stakeholders, and public issues" [1] not involved or addressed before. In a process of mutual fertilisation, different sectors and stakeholders interact and combine their knowledge resources from lays as well as experts. Their aim is to create innovative solutions in order to conquer new and old problems and to tackle the structural problem of managing the implementation phase of policies. The current discourse on this issue is working on a reconciliation between the two dominant thinking schools of bottom-up and top-down approaches. However, there is a lack of consistent and suitable definitions and frameworks on how to effectively create an environment where co-creation can unfold its full potential. It is a challenge to find appropriate ways to align relevant dimensions of co-creation and the inherent repositories of knowledge from different characters as well as mind-sets and concepts that come to light in the process.

Against this background, SISCODE aims to understand co-creation as a bottom-up and design-driven phenomenon that is flourishing in Europe – in places such as fab labs, living labs, social innovation labs, smart cities, communities

and regions – to analyse favourable conditions that support its effective introduction, scalability and replication; and to use this knowledge to cross-fertilise RRI practices and policies. During the project, (1) research on the current state of co-creation is complemented by (2) a transnational system of co-creation laboratories experimenting with co-creation tools and approaches and (3) an intermediate playground to re-connect policy design with grassroots initiatives of co-creation.

These three research strands, addressed in the upcoming three chapters, will produce knowledge to be further triangulated into a model of co-creation ecosystems to enhance capacity in RRI implementation and in STI policy making.

CREATING A CO-CREATION KNOWLEDGE BASE: FIRST INSIGHTS

The SISCODE consortium, consisting of 17 partner organisations from 13 European countries, collected and analysed 138 co-creation cases, now forming the project's knowledge base. It is imagined to become an interactive instrument and tool for data generation, open and transparent to the whole community of the project.

Deriving from SISCODE's working definition of co-creation, common themes are connecting different perspectives on it as a basis for a shared understanding [2]. Co-creation is therefore defined as being a **non-linear process** involving **multiple actors** and stakeholders in **all phases** of ideating and implementing new products, policies and systems with the aim of **improving their efficiency and effectiveness** under the maxim of **satisfaction of all** those who participate in the process. Looking at the close relationship between 'good' and promising cooperation among different actors the question of how to plan and implement such a process under the perspective of design studies is an important focus. Both policy makers and designers alike strive to find the 'right' ways of facilitating processes of co-creation to construct better solutions.

> **Co-creation is therefore defined as being a non-linear process involving multiple actors and stakeholders in all phases of ideating and implementing new products, policies and systems with the aim of improving their efficiency and effectiveness under the maxim of satisfaction of all those who participate in the process.**

With the initial survey, we gained preliminary descriptive findings about co-creation practices across Europe and their contextual characteristics [3]. Main goal of the explorative research based upon the gathered data is to describe co-creation approaches and ecosystems to better understand the dynamics and outcomes of different forms of integrating society in science and innovation. On the long run, the practices and procedures carried should allow further conclusions for the assessment and creation of policies. For the project progression, the results serve as a pattern and heuristic model for a second, qualitative research phase, featuring in-depth case studies.

The landscape of initiatives found by the project partners shows a generally broad diversity of co-creation and its contexts. The vast majority of initiatives addresses multiple societal challenges, many of them related to health, demographic change and/ or wellbeing issues, but also topics of climate action and environment, food security and sustainable resources are addressed.

In accordance to the survey, co-creation is strongly dependent upon personal motivation and high personal interest of like-minded people or groups. A further decisive driving factor is an overall innovative environment surrounding the initiative – a combination of personal engagement and an innovation-friendly atmosphere is assumed to be a good starting point for co-creation. Furthermore, most cases are characterised through a wide cooperation with multiple partnerships in a broad network. There regularly seem to be some pivotal moments in co-creation that decide upon the further success of the process (e.g. initial involvement of stakeholders, first meetings, and feedback loops). Regarding the obstructive factors, the already suspected insufficient integration of users' perspectives clearly reflects in the initial results. Another prominent barrier seems to lay in the time frame initiatives are granted to undergo their co-creation routines. Several contextual factors limit time resources with, again, negative effects on the integration of user's perspectives.

As presumed, co-creation is not only a cross-sectoral process, but in many cases it involves all four sectors of society (civil society, academia, the public and the private sector). Most of the cases are furthermore characterized by co-creative elements in all four phases of a design cycle (problem identification/understanding, ideation, prototyping, verifying/ testing). Issues of diversity, inclusion and intersectionality are cross-cutting themes for many of the initiatives. In general, diversity in all facets is seen as a necessary precondition for successful co-creation processes as solutions are considered to work best, if they can adapt the heterogeneity of needs in society. However, little information is provided concerning the tactics followed to create diversity from the very beginning of the initiative.

From these short insights, it already becomes clear how the descriptive analysis rather raises more questions, as it does answer. These identified issues will be in focus in the upcoming research phase, where 40 cases will undergo in-depth case studies followed by 15 innovation biographies of co-creation processes. The focus here will be on the framework that enables the initiatives to set up a multi-sectoral playground for policy-making and the barriers that hinder the initiatives in other settings from doing so.

TEN CO-CREATION EXPERIMENTS: SETTING UP TRANSNATIONAL LABORATORIES
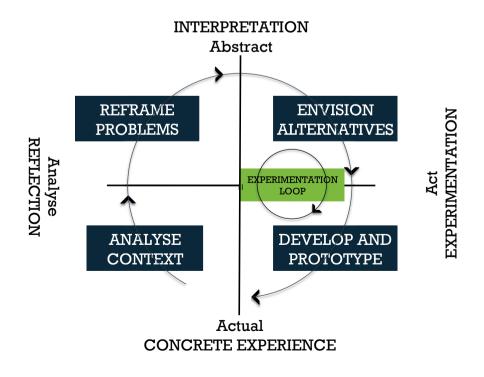
SISCODE has established a system of ten transnational co-creation labs out of three co-creation networks involved in the consortium (ENoLL, international fab labs network and Ecsite).

The role of the co-creation labs is to experiment with design methodologies and tools as an approach to shorten the distance between ideation and real implementation of solutions and policies (implementable co-creation). The experimentations started 6 months after the beginning of the project (and will run for two years). They are aiming to verify the hypothesis that the adoption of the design approach to co-creation can make RRI more implementable in practice by introducing design methodologies and competences in the organisational, institutional and policy domains where it develops. The expectations are that the

introduction of new knowledge and competences will require and trigger transformations in the co-creation ecosystems of the ten labs to overcome the barriers and constraints to the real implementation of RRI.

To achieve this aim, SISCODE thus combines the design process with a learning framework, using this combination to set up a learning environment (to provide a knowledge-creation space in the 10 labs) in which to make it possible for a range of diverse actors and policy makers to experiment with co-creation in situated conditions.

Furthermore, to implement this learning loop, the ten labs have been involved along an innovation journey composed by four main phases. These phases range from the stage of understanding the context and the problem and designing together an idea, to that of developing and testing a prototype and back to the design phase (iterative process). Each lab is currently working on prototyping the envisioned solutions to be experimented in each of the ten contexts to face the specific societal challenge they selected and analysed in the first three phases of the innovation journey.

As initial insights are showing, each lab started from a different background on co-creation that has influenced their overall initial capacity to deal with the specific co-design approach, methodology and tools provided by SISCODE. All the labs manifested a certain degree of knowledge acquisition with respect to co-design that has led to a re-combination and integration of pre-existing

SISCODE design-based learning framework, combining the design cycle with Kolb's experiential learning model

knowledge in the SISCODE teams and in some cases also in the larger contexts of the labs (e.g. the hosting organisations of the labs). The process of learning has particularly focused on the first three phases of the design process (context analysis, problem re-framing, envisioning alternative). The phase of prototyping and testing will start in August 2019 and will be devoted to co-producing prototypes and test them in real contexts with other stakeholders and end users.

AN INTERACTIVE PLAYGROUND: CONNECTING GRASSROOTS INITIATIVES AND POLICY-MAKING
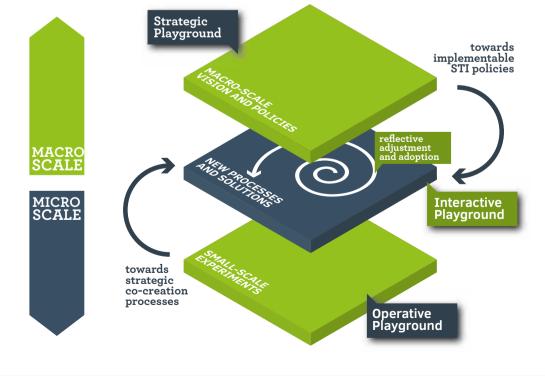
As the experimentations in the labs proceed, they will be exploited for the conduction of a series of policy experiments based on the engagement of policy makers in real co-creation projects [4]. This second level of experimentation will then verify (and produce new knowledge) the hypothesis that using the co-creation projects run by the ten labs as playground for policy makers to observe and take part in small-scale co-creation experimentation in real contexts will reconnect this knowledge with to the policy making activity.

This part of SISCODE's action research will start in August 2019 as soon as the process of prototyping the envisioned solutions and experimentation is finished. Related to the effective implementation of the interactive playground, all labs are reporting some barriers that could limit the participation of policy makers. The labs mentioned a lack of a co-creative culture in policy making, as it is still designed to be a top down process led by experts and politicians. Furthermore, the resistance to change of public organisations and civil servants tends to prevent them to deal with innovation. Moreover, politicians seek to solve problems as fast as possible – but, with respect to co-creation processes, an adequate time period is a necessary factor to align stakeholders with different interests and motivations.

RECAP AND OUTLOOK

SISCODE devoted six months to understand deeply the current state of the art in applying co-creation in RRI and PE: furthermore, the role of design in this context was examined closely. Taking this basic work as a starting point, the project started to produce knowledge alongside two parallel strands of research. Firstly, an explorative understanding of co-creation processes through an extensive mixed-methods analysis of case studies in different fields in and outside policy making and RRI. Secondly, the direct experimentation with a design-led co-creation approach in ten real contexts across Europe to introduce co-creation in RRI practice. The triangulation between these different sources of knowledge is meant to guarantee a systemic interpretation of research results making the development of knowledge related to co-creation realistic and actionable in the field of RRI.

Interaction between policy making and implementation

This triangulation will support to develop an understanding of the configuration and the transformative processes of co-creation ecosystems. Furthermore, it will help generating new knowledge on the mechanisms chosen to overcome internal and external barriers to successful solutions to societal challenges. This knowledge will be used in SISCODE to develop models of co-creation ecosystems to build capacity to adapt design-led co-creation that proved to be effective in specific contexts to RRI solutions and policies and to the diversity of cultural and regulatory backgrounds, guaranteeing high potential for their scalability across Europe and beyond.

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THE CONTRIBUTION OF SOCIAL SCIENCES AND HUMANITIES TO SOCIAL INNOVATION

It is time for Social Sciences and Humanities (SSH) to shift away from their traditional defensive stance when the issue of impact is addressed. Transformative research undertakings provide an opportunity for this. SSH can address grand challenges through instrumental or more reflexive approaches. They potentially could also raise impact by contributing to social innovations.
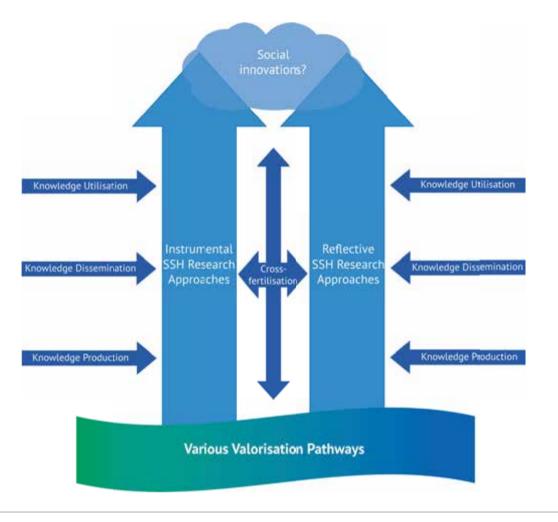
Klaus Schuch

INTRODUCTION

It is time to re-load the notion of impact of Social Sciences and Humanities (SSH) and to shift away from the traditional pre-dominant defensive stance [1], which SSH researchers often articulate in discussions about the impact of research. Although many arguments remain relevant such as the too narrow impact focus of research on economically relevant technologies and innovations, such a stance leads inevitably to a marginalised position, which is sometimes met with suspicion from policy-makers, but also from fellow colleagues of the so-called 'hard sciences'. Instead of talking about 'integration' of SSH into dominantly technologically-minded projects, it is argued in this short paper to shift the notion to equally valuated research contributions of SSH to inter-disciplinary transformative research undertakings and to bring SSH at eye-level with engineering and natural sciences. This requests the usage of the full potential of SSH research. The often raised – and also often normatively valuated – differentiation between an instrumental understanding of SSH as an auxiliary service within technology-oriented collaborative projects, on one side, and a reflexive understanding of SSH, on the other, is not helpful in this respect and should be overcome because both aspects are important for transformative research. Moreover, it is argued in this short paper that SSH research should engage more in providing evidence and support for smart designs of social innovations, but this would presumably request also a change in the performance accountability system of universities and public research organisations.

THE INSTRUMENTAL AND REFLEXIVE FUNCTIONS OF SSH FOR TRANSFORMATIVE RESEARCH

There is widespread consent at the European level that technological fixes without consideration of human conditions are not sufficient for tackling grand challenges and inducing transformational changes. Especially in pillar 3 of Horizon 2020, the current European Framework Programme for RTD (2014-2020), which deals with some of the grand challenges, SSH is perceived to have an instrumental support and leverage function in favour of a more 'society-ready' technological development, not at least also to avoid waste of resources and idle capacities. In this line of argument, the usage function of SSH lies primarily in the cooperation with technology-oriented disciplines rather than on strengthening genuine SSH topics.

This popular narrative of the instrumental auxiliary function or contribution of SSH to technology-based innovation processes is often framed in the context of inter- and trans-disciplinary challenges. Especially trans-disciplinarity, which features outreach to and inclusion of non-academic stakeholders as well as of non-formalised knowledge, is a competence which is sometimes credulously assigned to SSH researchers because of their perceived proximity to social spheres. This understanding hypothesises that SSH researchers are (at least more) capable and professional in meeting and applying state of the art involvement tools (than their fellows from engineering and natural science). In this understanding, the contribution of SSH to more technological oriented projects and its peculiar value is basically perceived as a project steering and outreach competence, especially if issues of the normal course of life and/or the inclusion of non-academic audiences (e.g. stakeholders, users) are concerned. This understanding

How various SSH valuation pathways can impact transformative research

became a partially shared reality in many Horizon 2020 projects. In certain research fields (such as 'Public Health and Sustainable Development') the use of transdisciplinary tools is daily business. Often social scientists are charged with engagement processes by applying a variety of process tools such as design-thinking or multi-stakeholder workshops.

> **Before asking how SSH can mitigate the effort of technological adaptations to social conditions, SSH should also be employed to reflect, frame and analyse the wicked problems before a technological solutionism approach is taken.**

It is not surprising that this approach to treat SSH research as an auxiliary resource for technological projects to address grand challenges is often regarded as an improper reduction of SSH. There is truth in this, because the grand challenges are grand since they concern human societies and cultures,

the ways how we humans interact with each other but also with our environment, how we produce and consume, how we construct meaning and judgement to our actions, and how we reproduce our societies and cultures but also how we change them and our behaviour.

Thus, before asking how SSH can mitigate the effort of technological adaptations to social conditions, needs and wants, hence contributing to an innovation race which continuously seems to pick up pace, SSH should also be employed to reflect, frame and analyse the wicked problems before a technological solutionism approach is taken. It could be argued, for instance, that any topic addressed under Horizon 2020 (from 'A' like agriculture to 'Z' like zero-waste) would at least deserve a proper analysis of the political economy underlying these topics.

Instead, technological solutionism promises quick results and profits and is positively connoted with an attractive entrepreneurial 'hooray – let's go for it' image, which has undermined and captured research policy-making since more than 30 years and led to the 'holy duality' of research and innovation. The concept of 'societal readiness levels' is fitting this instrumental auxiliary understanding of SSH to

leverage the social acceptance of technologies. It should absolutely not be denied that SSH can be very helpful in this respect. On the contrary, innovation is a social process with various social implications. Innovation research thus can be a subject of business economics, but also of anthropology, cultural studies, political sciences, sociology, economic geography and so forth.

The important thing here is to understand, that innovation is not only the business of businesses, but also the business of society. And as a business of society it also should become a business of SSH research. In this respect, Bell [2] calls for a reflexive, genuine and broad added value of SSH for transformative research, starting with the 'what if' question, constructing alternative scenarios and by considering also the non-material features of human existence. He furthermore claims that SSH can provide strong contributions to make transformations happen.

SSH AND SOCIAL INNOVATION

Taking up the claim of Bell [2] mentioned above that SSH can provide strong contributions to make transformations happen, the focus in this section is narrowed down to the relationship of SSH research and social innovation as one of several other potential amplifiers of transformation.

The global mapping of social innovations implemented by the project 'Social Innovation: Driving Force of Social Change', which was funded by the European Commission under the 7th European Framework Programme for RTD, clearly showed that institutions from research and education are not among the most frequent partners involved in social innovations [3]. In other words: their role as knowledge providers to social innovations is yet limited, although we find a long tradition of action research, which stimulated social action. This, however, should not be equated with social innovation.

Howaldt [4] refers to an uncompleted eco-system of social innovation with one important pillar missing (i.e. the higher education and research sector) in an ideal quadruple helix composition. The reasons for this are manifold. They include demand-side, supply-side and structural problems.

First, the loose relation of SSH and social innovation is often caused by the very nature of a social innovation, which is usually bottom-up and straightforward in scope and scale. Social innovations are often initiated by practitioners in their own field of work and expertise or are related to a certain concern and prompted by civil society actors (individuals and groups). Financing needs and relational capital needs are usually more pressing, or at least seem so, than knowledge deficits. Moreover, if knowledge deficits are becoming evident, surveys show that they often relate to issues of taxation, marketing, and financing.

Second, another demand-side problem is the financial precariousness of most social innovations. Social services are in general often perceived as low-cost market segments and the cost structure of universities and non-university research organisations hardly fits to the tight budgets of social innovators. Interestingly, while third-party financing through technology transfer enjoys a high reputation, mostly accompanied by competitive market prices, knowledge transfer for social purposes and problems, including social innovations, is widely perceived as an altruistic free of charge exercise.

Third, and connected to the previous point, commercial innovation is recognised as a presumable income source for higher education and non-university research institutions although in reality the income through licensing, for instance, is overall quite low. Nevertheless, such a commercial science-business exchange market is facilitated by institutionalised support structures such as technology transfer centres. As regards social innovations, however, there are neither material nor immaterial professional structures available within most higher education and non-university research organisations for supporting social innovation. Examples like the '6I research model' at the University of Deusto or the Knowledge Transfer Centre for SSH in Austria are still the exception and not the rule.

Fourth, social innovations do not count yet for the performance accountability of universities and non-university research organisations (and their faculty). Thus, they lack promotional quality and significance. One but not the only reason for this it the lack of suitable indicator-based measurement techniques and process models to trace social innovations at higher education institutions and public research organisations. Beyond the field of social entrepreneurship training, there are only few showcases on productive relations between research in universities on one side and social innovations (beyond the realms of the university) on the other. If at all, social innovation is mostly treated within higher education and training as a problem-solving method with a strong practical focus. Neither social innovations initiated by higher education institutions, nor practices and systems how to monitor, measure and promote their way from universities to society are regularly documented and in the focus of attention of university management (systems). If, however, the processes, which underlie the emergence of social innovations within universities and from universities into society would be better understood, then they could also be better captured, steered and counted. In other words: to attain visibility within the performance accountability of universities and non-university research organisations, processes that contribute to social innovations in the field have to become traceable, attributable and accountable. Hence they can be promoted, incentives given and achievements rewarded. The latter includes also rewards for the faculty members, e.g. by including their contributions for social innovations in their own performance reporting.

Fifth, universities and most public research organisations usually also lack the appropriate infrastructure and resources for interaction with society. Especially universities are still confronted with the unfair ivory tower ascription despite their manifold openness and outreach activities (e.g. Children University etc.). Places designed to meet, to exchange, to co-design and prototype social innovations are still scarce within the academic infrastructure.

SSH research is regarded as more directly impacting society than other research disciplines.

Finally (although the list of arguments could be extended), one also has to clearly say that despite the fact that SSH scholarship is often committed to do research for the good of society, the interest of researchers is often not oriented towards producing usable results such as social innovations. The interest is rather to raise awareness and to influence society to create capabilities of self-understanding in different contexts [5, 6]. This understandable position, however, can often not be realised by just publishing papers in scientific journals or by educating students in narrowly defined courses. Adequate alternative outreach formats to really reach out to society are often not employed or even lacking (see also point five above).

CONCLUSION

While the argument of a potentially strong impact of SSH research is widespread among SSH communities, direct impact of SSH research on social innovations remains subject to speculation, as the collection of systematic data is lacking. The mapping exercise about social innovations conducted by the SI-Drive project is a commendable exception, but it does not reveal a strong visible relation between SSH and social innovation. SSH research is regarded as more directly impacting society than other research disciplines, because the social subsystems 'Culture', 'State', and 'Market' are in the focus of most SSH research. Although impact pathways of SSH research on society are logical, they are not necessarily more evident or tangible. Beck and Bonß [7] even claimed that interpretation offers provided by social sciences are practically most successful, when they seemingly vanish without trace in the consciousness of everyday life and policy. Also the instrumental contributions of SSH run danger of disappearing behind technological solutions.

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INDICATORS FOR MEASURING SOCIAL INNOVATION

Addressing a largely underexplored research field, this article centres on the development of indicators to grasp social innovation at different analytical levels: organisational innovativeness, regional innovation capacity, and resonance, to position social innovation in the broader field of innovation.

*Maria Kleverbeck / Gorgi Krlev / Georg Mildenberger / Simone Strambach /
Jan-Frederik Thurmann / Judith Terstriep / Laura Wloka*

INTRODUCTION

Social innovation relates to new forms of interaction, cooperation, governance and knowledge generation. Compared to commercial innovation, it comprises a broader variety of actors and hybrid business models. Research on social innovation has made progress in recent years. However, the measurement of social innovation is a neglected area for which we lack valid indicators.
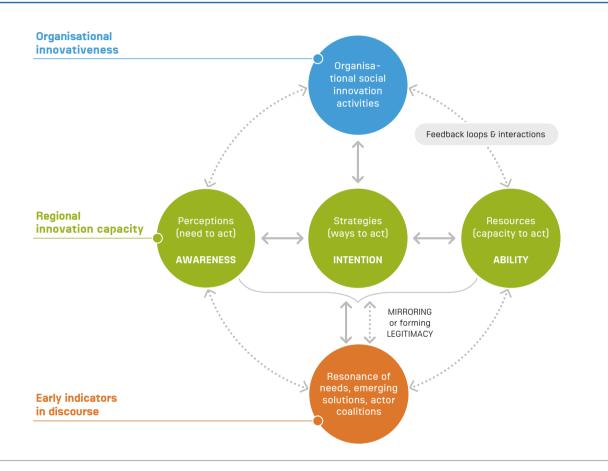
The joint research project »IndiSI – Indikatorik Soziale Innovation« (Social Innovation Indicators), strives to address this issue. We develop and test a set of social innovation indicators to measure social innovation at three interrelated levels: organisational innovativeness, regional innovation capacity and resonance in social media as an early indicator. The study is structured in two research stages: (1) development and testing of indicators (2) evaluation of indicators and implementation as standard survey. Our research area is the Rhine-Ruhr region, which has gone through decades of structural change. Today, universities, business development agencies and politicians focus on the creation of a knowledge-based economy. Indicators at the organisational level are developed to shed light on the innovation capability of organisations and innovation outcomes taking into account the hybridity of actor networks and business models. With regard to regional innovation capacity, the second part of the indicator set explores the respective regional context and attitudes of the population regarding social innovation. The third part of the indicator set employs digital methods and the analysis of social media (mainly twitter) and online discourses as tools to develop indicators of the resonance and trend potential of social innovation.

ORGANISATIONAL INNOVATIVENESS

To address the above-mentioned research gap, we firstly adopt an organisational perspective. Based on an extensive literature review and secondary analysis of national and international (social) innovation surveys, several indicators crucial for measuring social innovation at organisational level were identified. These SI indicators are translated into an organisation questionnaire to be tested in the Rhine-Ruhr area in Germany in summer 2019. It zooms in on indicators in five thematic areas: (1) formal structure, (2) decision-making processes, (3) social innovativeness, (4) business model and (5) context. Different from other research projects, our definition of the terms »organisation« and »social innovation« is intentionally broad, to allow for different types of social innovation and leave the determination of what is innovative (and what is not) to the instrument of choice.

1. *Formal structure:* The first section of indicators includes indicators describing the formal structure in order to identify formal characteristics of observed organisations. They allow us to identify cases with similar characteristics and group them. The identification of groups aims at comparing social innovativeness by different organisational forms and types.
2. *Decision-making processes:* The second block of indicators refers to decision-making processes with regard to the intention of being socially involved, the target group and the involvement of staff (employees & volunteers). The latter one describes kinds of staff participation, creativity and knowledge.
3. *Social innovativeness:* The third block draws on social innovativeness taking into account indicators measuring the input, output and outcome of innovative activities. Indicators describing the input are subdivided in social innovation investment and cooperation. The output

The three levels of social innovation measurement, which we describe from bottom to top, shows how our three levels of analysis are connected. Tracking online discourses shall enable us to fathom perceptions about pressing societal needs and the proposition of new solutions and existence of actor coalitions pushing these solutions. It is therefore a mirror of societal legitimacy for relevant and appropriate problem formulation (solid arrows) as well as a place where legitimacy is formed and fed into society (dotted arrows). There is a back and forth interaction between resonance indicators in online discourse and enabling context conditions in regions. As regards the latter, we distinguish between factors that denote (1) awareness to act; (2) intention to act; and (3) ability to act, which are interconnected. These regional indicators in turn are shaped by and at the same time determine organisational social innovation activities. While the depiction of the indicators system appears static, it relates to processes that are revolving, marked by feedback loops, and interactions. These are symbolised by the dotted circle connecting the three levels.

The three levels of social innovation measurement
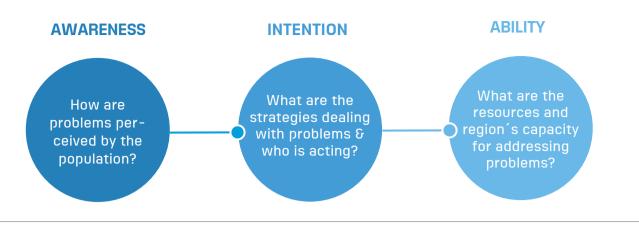
indicators are designed to give insights into the social innovation performance by examining the innovation intensity (number of implemented solutions) and the innovation scope (number of people reached by the innovation). The identification of outcome indicators is more difficult against the background that organisations are surveyed only. Further, the transition into established structures and the diffusion into other contexts (imitations & scaling) is collected.

4. *Business model:* The fourth indicator block belongs to decision processes working on financial aspects, factors of growth and digitalisation as cross-sectoral topic. Among financial aspects, we differ between resources, income and expenditures. Indicators describing factors of growth

comprises the potential to growth, reasons for expansion, consequences of growth and production indicators.

5. *Context:* Our last block of indicators refers to the environment in which the social innovation is embedded. It takes cooperation, need for support, competition with other actors, obstacles and unintended effects into account.

REGIONAL INNOVATIVENESS

At the level of regions, we aim to grasp whether and how the population is supportive of social innovation. For this, we assess regions by means of a population survey on three

AWARENESS	INTENTION	ABILITY
How are problems perceived by the population?	What are the strategies dealing with problems & who is acting?	What are the resources and region´s capacity for addressing problems?

Regional social innovation capacity

different levels, which relate to how citizens are positioned towards social problems or unmet social needs.

The idea behind covering all three levels is that for a regional context to be stimulating social innovation the population first needs to know about what needs to be acted upon (awareness). Second, the population needs to feel some responsibility for actively doing something about issues identified as problems (intention). Third, the population needs to have the right type and amount of resources to turn intentions into action (ability). Our proposition is that the higher our metrics across the dimensions, the more will a regional context foster social innovation.

> **For a regional context to be stimulating social innovation the population first needs to know about what needs to be acted upon.**

Within the category of *awareness*, we will focus on a variety of potential 'problem areas' how the population assesses them with regard to both, the problems' relevance and severity. Subject areas will include inequality, environment or security. One exemplary question on inequality would be: "How worried are you about social inequalities in your region?" However, we will also test for the counterpart to the assessment of problems, namely how satisfied people are with their lives. As regards *intention*, we will include a number of sub-dimensions. One of them will relate to the question of who is responsible for social innovation: policy, corporates, or citizens? We will also assess levels of activity and 'activism', for instance in relation to civic engagement, including membership in associations or levels of volunteering. Lastly, we will assess in how far the population thinks citizens can effectively shape social change. When it comes to *ability*, our measures will relate to relational resources such as social integration, measured for instance by asking about citizens' sense of belonging. However, we will also cover available skills and expertise (human capital) or pro-social attitudes mirrored by levels of tolerance or solidarity.

To design questions and scales we have screened a large number of available population surveys such as the European Social Survey, but also national ones like the German Social Economic Panel (SOEP). We know relatively much about the values of indicators at the level of nation states. However, available data is mostly not fine-grained enough to capture the values of indicators in regions and differences between them. This is why we need to invest in primary data collection.

The above taken together outlines that our thinking on the enabling factors of social innovation draws strongly on seminal research in the social sciences. For example, it relates to the vast work on social capital. In addition it draws on current work on social innovation that stresses its collaborative [1] and context dependent character [2], or highlights that social innovations and their actors are typically locally embedded and marked by open exchange [3].

EARLY INDICATORS OF SOCIAL INNOVATION

Social innovations are linked to institutional change, beginning with the identification of social needs. An essential part of our research is the development of methods for the analysis of early institutionalisation processes. Through early stage indicators, we aim to measure the ways in which perceived social needs find resonance in other actors, as well as how awareness is raised, how legitimacy is formed and how resources are mobilised. Using social media data (mainly Twitter), and social media analytics, we will develop resonance indicators for social innovations in the early phase of their forming. Compared to ex-post indicators, there are considerable gaps regarding appropriate early-stage indicators, especially for social innovation.

We use social media discourses and interactions as means to grasp social innovation processes because such discourses are embedded in a specific social, historical, political and economic context and are often directly linked to events taking place outside of the virtual space. Hence, they can act as a mirror of real-life processes and display what and how

> **Social innovators are actively present on the Internet and use social media in particular to share their values, connect to like-minded people and build common identities.**

societal challenges are discussed. At the same time, social media act as means of initiating such processes and discussions: in the context of tackling societal issues, they present tools for awareness raising or resource mobilisation. Social innovators are actively present on the Internet and use social media in particular to share their values, connect to like-minded people and build common identities – all of which are essential features for the building of legitimacy to their social change efforts.

By analysing data of social media discourses linked to societal challenges, patterns of communication can be identified and traced back to perceived social needs and thereby to social innovations in their early forming stages. The multimodal nature of online communication offers the possibility to apply qualitative and quantitative methods for the analysis of social media discussions, such as network- and discourse analysis. We develop and test methods to assess the resonance for social innovations in terms of awareness raising, legitimacy forming and resource mobilization with the help of social media data and analytics along the following categories:

1. *Themes:* How present is a particular topic on social media and how is it discussed? We apply quantitative measures like the number of related posts over time and the number of sources that actively promote or engage with a topic. Trend analytics are used to identify new and emerging topics.
2. *Actors & networks*: What kind of actors are involved in discourses on particular subjects and how do they connect to each other? We will analyse the discussants that may influence connection, coordination, and dialogue across actors. For example, these may be the location or the role of users (such as social innovator, activist, intermediary, politician). We can assess how these attributes translate into network structures (and vice versa) by using metrics of network analysis.

3. *Spatio-temporal dynamics:* How do discourses develop over time and diffuse into different contexts? Collecting longitudinal data enables the assessment of the dynamics of short- and longer-term discussions, and offers insights into how networks evolve in time and space as well as how actor constellations change.
4. *Events & resources:* Pertinent events on social issues (e.g., conferences, social pitches) can trigger an increased discussion of social issues. Subsequent developments of ideas and networks are fostered via social media. Furthermore, cases like crowdfunding campaigns can show how socially innovative projects mobilise resources and build legitimacy through social media communication.

Our knowledge on institutionalisation processes in an early stage and the way how these processes are shaped by the increasing simultaneity and mutual conditioning of virtual and physical interactions and networks is limited. By combining the theoretical approach of new institutionalism in organisation theory [4] and different dimensions of proximity and distance on learning and innovation [5] we intend to contribute to a deeper understanding of institutional dynamics.

SUMMARY

Our assessment on all three levels is an explorative scoping study that is meant to outline pathways to effective social innovation measurement. While the organisational assessment is closest to established metrics of commercial innovation, the exploration of 'early indicators' in social media is unprecedented. The regional assessment is located between the two in terms of novelty. The eventual goal of the study is to provide recommendations on how the perspectives we explored and the indicators we tested, can complement or be implemented in existing approaches to measuring innovation more generally. Given the single-region setting we operate in, we will only be able to tease out interaction of the levels by means of qualitative case studies on how discourse, regional conditions and organisations were inter-linked in bringing about social innovation. In order for our work to unfold its full potential, the measurement approach would need to be rolled out at a larger scale across regions, and if possible across countries.

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02/
SOCIAL INNOVATION AROUND THE WORLD

Social innovations are not limited to one place, region or country; rather they address social, economic, political and environmental challenges of the 21st century on a global scale. While the phenomenon is ubiquitous, social innovations arise in specific socio-cultural contexts determining their activities, organisation and funding. Many of the social innovation initiatives are deeply rooted in local settings and embedded in a network of existing social practices and institutions.

In this chapter, we follow the tracks of social innovation around the world. Thereby, insights into the variety of social innovations in different countries are presented. This broadens the perspective, ranging from nuances to communalities and common topics, driving the global phenomenon of social innovation.

SOCIAL INNOVATION IN AUSTRALIA: POLICY AND PRACTICE DEVELOPMENTS

Although it has experienced recent improvements, Australia has historically lagged behind many OECD countries and several of its regional neighbours in its commercial innovation performance. While there is a considerable social innovation activity in Australia, it is not well-enabled by policy frameworks, and is often not documented or evaluated.

Jo Barraket

INTRODUCTION AND BACKGROUND

Contemporary approaches to social innovation in Australia have to date focused largely on social enterprise development, new approaches to social finance and social procurement as well as citizen-centred social service reforms.

With its federated political system involving national, state and local levels of government, Australian policy support for social innovation has been patchy, while regulatory conditions continue to trail emerging practice. The absence of an explicit commitment to social innovation was a notable feature of the Commonwealth Government's innovation blueprint [1], released in 2017. Subsequent interpretations of this blueprint refer briefly to social innovation but focus only on financing – specifically, social impact investment – as an area for policy support. Broadly speaking, the language of social innovation has not gained traction in Australian policy discourse as it has in other world regions. The exception to this is in the state of South Australia which, influenced by social innovation leaders from the UK, supported the establishment of the Australian Centre for Social Innovation (TACSI) in 2009. TACSI is a leading intermediary for the demonstration and diffusion of social innovation in Australia, with a particular focus on disrupting disadvantage and enabling community-led innovation.

While the concept of social innovation has not taken hold in Australia, policy support for different practical manifestations of social innovation ranges from strong to weak and varies across states. Given the diversity of social innovation practice, four explicit domains – social enterprise, digital social innovation, co-designed and community-led innovation, and new approaches to social finance – are briefly considered below.

There are an estimated 20,000 social enterprises in Australia, operating in every industry of the Australian economy [2]. With a history of cooperative economics since European settlement, and a demonstrably enterprising not for profit sector, there is well-established practice in Australia in using the market to progress social goals. Social enterprise activity in Australia has gone through various waves informed by socio-historic developments such as the rise of new social movements, global economic restructuring, technological advances, and the march of neoliberalism [3]. Early adopters of neoliberal policy regimes, successive Australian governments have supported quasi-market developments in areas such as employment services and, more recently, services for people with disabilities. These encourage market-based activity of the third sector as service providers within quasi-market arrangements. While there is demonstrable activity in social enterprise in Australia, public policy support has been piecemeal. There is currently no national policy framework to support social enterprise development, and only one comprehensive framework in an Australian jurisdiction, the state of Victoria. National research conducted in 2016 indicates that Australian social entrepreneurs identify major opportunities for social enterprise development in: social procurement; quasi-market development, and opportunities to extend their social impacts through supply chain development. Major

> While the concept of social innovation has not taken hold in Australia, policy support for different practical manifestations of social innovation ranges from strong to weak and varies across states.

SOCIAL ENTERPRISE IN AUSTRALIA

Social enterprise in Australia

constraints on the development of the field identified by participants included a relatively limited ecosystem for social enterprise development and piecemeal public policy support [2].

DIGITAL SOCIAL INNOVATION

There has been limited systematic effort to map digital social innovation in Australia, although one crowdsourced mapping effort (www.digitalsocial.org.au) is underway. Bespoke acceleration and incubation programmes are not widespread; however, there is some prevalence of open democracy and open access activity through socially-focused hackathons organised variously by civil society networks, universities and governments. Policy emphases on open access of data are increasing, with formalised government commitments to sharing some forms of data and increasing requirements of data access prescribed in government-funded research. In relation to digital activity and collaborative economy, there is evidence of various citizen efforts to utilise blockchain technology in support of social and environmental goals, such as residential sharing of excess solar power and enabling direct democracy and collective decision-making. The 'tech for good' movement seems to be gaining traction in Australia but at the time of writing can best be described as nascent. Collective aspirations regarding the advance of digital social innovation

in Australia are somewhat constrained by the digital exclusion of particular demographic groups [4], and many third sector organisations [5].

CO-DESIGNED AND COMMUNITY-LED INNOVATION

Australia can derive much of its learning about community-led innovation from our Indigenous people, who represent the oldest living culture on earth. With a large geography and sparse population, Australians also have a shared history of collective self-help, particularly in rural and remote areas since European settlement. In recent years, capacity building organisations such as Collaboration for Impact (collaborationforimpact.com) have emerged to support contemporary approaches to collaborating for social impact through effecting systems change. Australian governments are currently investing in collective impact initiatives to enable co-designed solutions to challenges in geographically disadvantaged areas and among marginalised social groups. Peer-led social programmes, such as TACSI's

> With a large geography and sparse population, Australians also have a shared history of collective self-help.

Family by Family programme – which engages and trains families experiencing disadvantage to coach and support others with similar experiences – are also gaining policy attention. Overall, though, explicit and comprehensive support for such approaches is not yet well-established in Australia.

NEW APPROACHES TO FINANCING SOCIAL GOALS

Australia has been an early adopter of relational financing instruments such as social impact bonds, although extensive use of these instruments has not been adopted and evaluative evidence of their impacts is minimal at this stage. There is growing experimentation in social impact investment by both philanthropy and mainstream financiers. At the Commonwealth Government level, there has been support for developing the impact investment market, starting with the establishment of a $40 million Social Enterprise Development and Investment Fund in 2011, and more recent establishment of a sector readiness fund. Government and private efforts to stimulate supply appear to be successful, with investable impact investment product growing from $1.2 billion in mid 2015 to $5.8 billion at the end of 2017 [6]. Despite this success, research finds an ongoing mismatch between supply and demand, suggesting that a wider suite of social finance options rather than impact investing alone is needed to effectively finance social change in the Australian context. Various Australian governments have been proactive in developing commitments to social procurement to stimulate market opportunities for Indigenous-owned businesses, social enterprises and other 'social benefit' suppliers. Ambitious social procurement policy goals are currently being implemented and evaluative evidence of their effectiveness is not yet available.

CONCLUSIONS

The story of social innovation in Australia is a mixed one, characterised by substantial but disparate activity, limited and uneven policy and regulatory support, and minimal documentation and evaluation to date. Whilst there are strong examples of social innovation across Australia, we are still a long way from building a coherent social innovation narrative and progressing solutions that match the scale of the challenges that face our society. At the time of writing, a number of major Australian institutions across all sectors are seeking to redress this situation by developing a Social Innovation Declaration that draws on local and international learning in support of a stronger social innovation ecosystem and blueprint for action.

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SOCIAL INNOVATION IN THE BRAZILIAN CONTEXT: A CONTINENTAL COUNTRY IN SEARCH OF TRANSFORMATION

How to think about sustainable Social Innovation initiatives in a country with vast geographic distances and so many differences in terms of culture, income distribution and opportunities? We address this challenge by analysing cases from all over Brazil against the background of demographic and socio-economic data.

Manuela Rösing Agostini / Claudia Cristina Bitencourt / Gabriela Zanandrea

INTRODUCTION

The concept of social innovation (SI) has been used in several different ways by researchers and practitioners. In Brazil, we identified that the concept has been approached by different authors, who most cited Mulgan et al. [1] on the process of social innovation and Cloutier [2], who presents social innovation as innovative responses providing sustainable changes.

Accordingly, it is necessary to understand these different arguments and contexts to better understand what SI represents. This paper aims to identify how SI has been applied in Brazil by analyzing illustrative cases and concepts that have been developed in recent years.
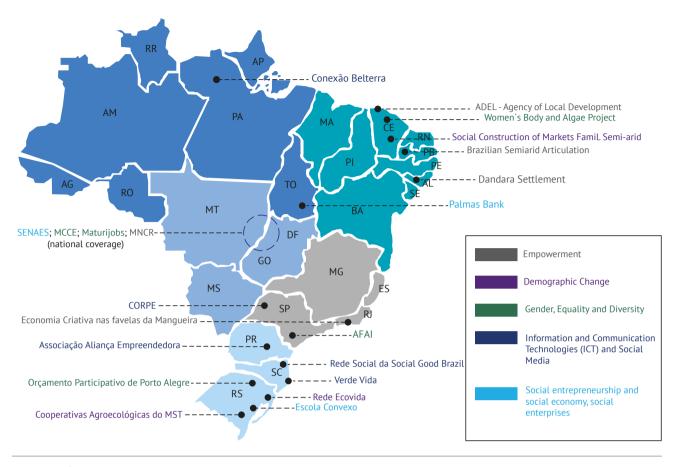
Brazil is a country located in South America, with an area of 8,510,820.623 km² [3], making it the fifth largest country in the world with an estimated population of 208,494,900 in 2018. The Gross Domestic Product (GDP) in 2018 totalled R$ 6.8 trillion, with a per capita GDP of R$ 32,747. Nevertheless, 15 million (7.4 %) people are below the poverty line with a per capita family income of less than US$ 1.90 per day, or approximately R$ 140.00 per month [4]. The measurement of critical restrictions to living conditions highlights that 28.2 % have restricted access to education [4], while the illiteracy rate of individuals aged 15 years or older reaches 7 % of the population [3]. Furthermore, 15 % of the population has restricted access to social protection and 13 % has restricted access to housing conditions, while 37.6 % suffer deprivations from a lack of basic sanitation and 25.2 % have communication restrictions (internet). The country is marked by inequalities, leading to the proposal of numerous initiatives to reduce inequality and ensure a life with better and more numerous opportunities for the population.

To analyse how the concept of SI is being used in the Brazilian context, we did a desk study searching for SI initiatives in Brazil. In the end, 30 studies were analyzed. We identified that SI is being seen in Brazil as an innovative solution to social problems or unsatisfactory situations. These SI initiatives are based on new ideas, processes, products and methodologies to improve quality of life and reduce social inequalities. We also perceived an attempt to make these initiatives scalable. In this sense, SI is approached as an engine of growth, stimulating economic restructuring to meet these demands. To this end, Brazilian experiences point to the need to establish new forms of relationship and collaboration that provide new possibilities for social action. Most of the Brazilian authors follow the research group of CRISES [5], which defines social innovation as a process of change in a broader concept of social relations.

SOCIAL INNOVATION INITIATIVES IN BRAZIL

In terms of location, we can see that SI initiatives have been developed in different regions of Brazil; with a predominance in the Northeast and Southern regions. We categorized the cases according to the cross-cutting themes identified and developed by the SI-DRIVE project. In the end, we categorized 20 cases into five areas (empowerment; demographic change; gender, equality and diversity; information and communication technologies and social media; and social entrepreneurship and social economy, social enterprise).

Map of the SI cases in Brazil and their thematic focus

The majority of Brazilian cases comprise initiatives that seek to integrate marginalized citizens into society. In other words, through **empowerment** the initiatives aim to mitigate problems such as social exclusion, poverty and unemployment by promoting strategies aimed at training, developing skills for entrepreneurship, generating employment and income and improving quality of life. For example, the Regional Tourism Association Dandara Settlement (AL) adopts practices that introduce principles such as mutual help and solidarity in a cooperative, supporting the development of social actions.

We also observed initiatives that fit the **demographic change** category, in which we highlight the case of cooperatives aimed at strengthening the autonomy of farmers, such as the Ecovida Agroecology Network (RS) involving different social actors for participatory certification that benefits agro-ecological family farmers and their organizations.

The initiatives linked to the **gender, equality and diversity** category include issues such as the ageing of the population, in which the aim is to promote lifelong learning, health, participation and safety/protection of elderly individuals, as in the Company Maturijobs initiative (National) and the AFAI Institution – the Association of Families and Friends of the Elderly (SP). Other initiatives aim to protect gender issues, such as the Women's Body and Algae Project (EC) or to develop mechanisms that provide greater control of the

activities of government actors and consequently ensure principles of equality. For example, the Participatory Budget of Porto Alegre (RS) involves the state and civil society actors for a new form of local governance in which these actors get together to collectively discuss and plan urban development.

Brazil's extensive territory is another issue that causes, to an even greater extent, the exclusion of some communities. At this point, initiatives are developed to improve the inclusion of these communities by making use of **information and communication technologies** such as the case of Belterra Connection (PA), which aims for inclusion through the connectivity project.

In the same way, we highlight the cases of **social entrepreneurship and social economy** as alternative initiatives for inclusion. For example, the project of Palmas Bank (TO) was created to promote income generation and employment using a corporate economic system.

SOCIAL TRANSFORMATION IN THE HEART OF THE AMAZON RAINFOREST – THE BAILIQUE EXPERIENCE

Another Brazilian SI initiative that our research group studied is the Bailique Case, located in a globally important

region: the Amazon Forest. In these more distant regions of Brazil, the communities have great difficulty in gaining access to the traditional market without suffering pressure or abuse from large business groups. To address this issue, the initiative created alternatives to empower communities by implementing the so-called Community Protocol, an instrument that establishes the conditions that the community creates for the exploitation of natural products.

Several measures were taken to create the conditions needed for the development of these communities: leadership skills workshops, autonomy projects, the development of business skills and countless discussions with community members to listen to their demands. As such, the protocol was created by the community that holds the power to amend this document. It was in this document that the community of Bailique defined that its best product for commercialization is the açaí berry and with it, they could guarantee the economic and social development of the region. Subsequently, the community sought a certification that would confer the quality stamp of products originating from good forest handling – the Forest Stewardship Council (FSC). This label added value to the product and became responsible for the main source of income for local families. With that growth, the community acquired a boat to transport the açaí berry, excluding the main players that explored the region, the distributors. Accordingly, the producers themselves take the product to the state capital and sell it directly to the end customers.

This case illustrates the application of SI Brazil, as the increase in income generates the social and economic development of the community. This initiative was developed by local actors changing the previously dominant institutional structures (intermediaries and large business groups). Additionally, we observed growth based on the autonomy and empowerment of local leaders, with education being a priority for current and future generations. A significant change in the local situation was also apparent, which had been one of extreme social and economic vulnerability.

FINAL CONSIDERATIONS

In Brazil, SI has been observed especially in the context of vulnerability and exclusion. Most of the situations focus on the context of poverty and voids, and demonstrate difficulties to scale or promote a systemic action of transformation going beyond punctuated change. The Bailique case is an exception due to the way the community organized themselves and created the first Brazilian Community Protocol, which can be replicated in other communities (scalability). Specifically, the Bailique community promoted an increase in income for açaí berry producers; stimulated a transformation of dominant market institutions; alerted community members to the need to think about education to generate changes for future generations; and made the community visible to the world, since it is the first sustainable açaí berry in the world (inclusive economy, social development and environmental protection).

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THE RELEVANCE OF SOCIAL INNOVATION IN MEXICO

In Mexico, 53.4 million people live under poor conditions, and the numbers keep rising. Violence and insecurity strike the country at different levels. Social change is required, but what can be done? The emergence of a culture of social innovation that combines art, science, knowledge and technology could make the difference.

Ivón Cepeda-Mayorga / Gabriela Palavicini

ABOUT SOCIAL INNOVATION

The increase of inequalities and disparities of living conditions demand a different approach to promote the development and welfare inside societies. An essential element to develop these strategies is to encourage a culture of Social Innovation (SI) as a process focused on looking for original forms to improve social standards of living and dignity inside communities. Through these solutions, social innovators take advantage of the opportunities inside and outside the community to promote a transformation at a structural level changing community behavior [1].

SOCIAL INNOVATION IN THE CASE OF MEXICO

It is essential to recall the specific experience of Mexico for the development of a culture of SI. SI has become more important in Mexico, as innovative social initiatives are required to solve problems like poverty, social inequality, education, food security, and health [1]. Recently studies show that 43.6 % of the Mexican population (53.4 million persons) is living in poor conditions [2]. In this sense, the priority for the emergence of a culture of SI in Mexico targets the relevance for assuring a social change and development that could revert conditions of inequality and poverty.
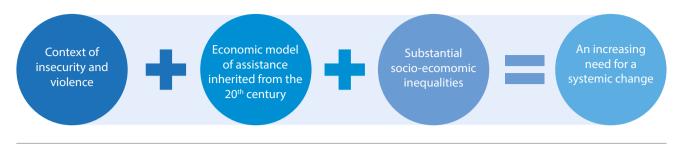
Even when Mexico is seen as a leader of innovation in the Latin American region [3], its overall results show that there is still work to be done. Following *The Social Innovation Index* developed in 2016, Mexico is ranked on the 32nd position out of 45 [4]. This index considers the institutional framework, the financial opportunities, the level of entrepreneurialism inside the country and the civil society networks available for the projects. Mexico's performance was below the average of other Latin-American countries [4]. Then, the challenge is to conjoin the efforts of different actors to develop a suitable environment for initiatives on SI. Commonly, projects arise and survive due to the energy of some specific persons or agents, but they require to reinforce a network among those actors, as governmental institutions, civic associations, investors, universities and ordinary citizens.

Since 2000, Mexico has been focusing on policies that could contribute to regional economic growth by endorsing activities of research and development that combine the implementation of knowledge from science and technology research. The intention is to move from hand-out programs that at the end offer temporary assistance, to programs that encourage the participation of different actors affected and involved in specific social problems, and ultimately reduce the technological, economic and social gap that impacts the welfare of people [5]. However, this requires to transform the culture of support and assistance that was inherited from an import substitution industrialization model from the 1930s to the 1980s, into a culture that encourages social innovation through scientific and social research, entrepreneurship and civic participation.

> Commonly, projects arise and survive due to the energy of some specific persons or agents.

From 2012 to 2018, specific initiatives of the Federal government supported projects of SI that focused on improving the living conditions of the most disadvantaged population. First, the topic of innovation was included in the National Plan of Development from 2013 to 2018 to regulate the activities performed by civic associations [1]. Some of the programs encouraged rural, textile, handicraft and environmental movements, as well as the development of capabilities of management, investment and marketing of

Circumstances highlighting the need for a new culture of SI

products, as part of the *Program for Social Co-investment* supported by the National Institute of Social Development. There were other programs focused on supporting civil societies through financial incentives from the Secretariat of Social Development and the Secretariat of Economy. However, with the current government, these programs are less active.

SI INITIATIVES IN MEXICO

In addition, some initiatives are supported by local governments, such as the *Digital Agency for Public Innovation* in Mexico City, which works with the use of digital technology and its impact on political and social life. Another example is the government of Jalisco's work with the ITESO (a local university), the National Council for Science and Technology (CONACyT) and a Center of Research and Specialised Studies on Social Anthropology (CIESSAS) to create the *Center for Social Innovation of High Impact* (CISAI), which endorses projects that combine technology with the goal of a social change. Currently, they are working on projects of applied research, medicine, agriculture, youth population and decrease of hunger in the Jalisco [6].

Following this, universities are taking a more active role, reinforcing the academic links with social organisations. As an example, there are citizen labs like the *Lab for Mexico City,* which was active from 2013 to 2018. This lab conjoined efforts from government, academia and civic associations in projects that propose creative solutions to problems of Mexico City, such as safe transport, sustainable mobility, public participation, migration, urbanism or recreational areas. Another example is the *Lab for Research and Applied Social Innovation* (LIISA) that uses art, science and strategic planning as part of the solution to social problems in Tijuana, Baja California.

There are public and private universities that include these activities in their programs, like Universidad Nacional Autónoma de México, Tecnológico de Monterrey, Universidad Iberoamericana (Puebla), Instituto Tecnológico Autónomo de México, Universidad de Colima, Universidad Popular Autónoma del Estado de Puebla, among others. They also offer courses as part of start-ups programs or social incubators. Besides, some of these institutions work together

with other NGOs, such as Ashoka México or Enactus México [1]. Academic institutions are playing an essential role in starting the awareness about social problems and the responsibility this implies for their students.

However, financial stability is one of the main struggles for Mexican projects. In this sense, there are national and international competitions and grants promoted by financial organisations (Santander, MAPFRE, BBVA), civic associations (Fundación Televisa, Fundación Bancomer) and governmental institutions (CONACyT, National Institute for Entrepreneurship, National Institute for Youth) that support projects selected at competitions and start-up programs. Yet, it is crucial to develop an administrative and financial framework for the sustainability of the project going beyond those grants. This implies making the project attractive, as well as sustainable, without losing the social value perspective. This is exemplified by the case of *Ilumexico*; a company focused on providing electricity through solar panels to communities who do not have access to light [7]. Ilumexico is part of the *B-Enterprises* in Mexico, which is a model of entrepreneurship that aims to promote a social agenda through enterprises that have an impact on the economy of the country.

CHALLENGES TO FACE: POLITICAL POLARIZATION AND THE INCREASE OF VIOLENCE

Even though there are advances in establishing a culture of SI in Mexico, the outcomes are still not the desired ones, as the spillover effects are mainly detected in regions with better economic and welfare conditions. In the meantime, regions that suffer more from social and economic inequalities (as the Southeast) are still struggling with problems of access to among others, medicine, food, health institutions, economic opportunities, education, proper shelter. Besides, Mexico faces tough political, economic and social circumstances, that demand creative solutions to diminish the inequalities and social injustices that characterize society. There is a feeble culture of collaboration among the different instances and actors related to social projects. Moreover, there is an environment of insecurity and violence, which harms the confidence and social fabric required for a culture of SI. Furthermore, some of the projects presented above were part of the political agenda of the

Actors creating a culture of SI in Mexico

previous government, and due to the change of the ruling party in power, some of these programs have become underestimated and questioned. This perspective could lead to a reversal of the progress achieved so far. The challenge is to promote and endorse those initiatives that serve as a link to conjoin efforts coming from different actors, convincing them that working together will lead to broader and more productive results. The only way to promote a systemic change that endorses fairness and equity is by working together, in the search to overcome political polarization and social disparities. This demands to develop skills of tolerance, empathy and dialogue as part of the culture of SI.

Even though there are advances in establishing a culture of SI in Mexico, the outcomes are still not the desired ones, as the spillover effects are mainly detected in regions with better economic and welfare conditions.

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SOCIAL INNOVATION IN JAPAN

DE FACTO SOCIAL INNOVATION AND ITS LIMITATIONS

The term social innovation is widely used in Japan, but the meaning is unspecific and open to interpretation. There is a lot of social innovation happening at different levels, although outside of Japan it is not known about. However, people's persistence to the old industrial growth model prevents these initiatives from scaling up fully in Japanese society.

Ken Aoo

INTRODUCTION

As one of the first industrialized countries in Asia, and one in which more than 27 % of the population is over the age of 65, Japan is characterized by some unique contexts. National debt accounts for over 230 % of the GDP, partly because of the increasing cost of medical and elderly care, pension, and other types of social welfare. There is a severe labor shortage, particularly in agriculture, construction, and the care and service industries. Young people are leaving rural areas and these communities are in danger of disappearing. Since the burst of the 'bubble economy' in the 1990s, Japan has not found a substitute to take the place of the conventional manufacturing industry and overhaul its economic structure. All of these issues call for far-reaching changes to be made in Japanese society.

SOCIAL INNOVATION: SELF-ACKNOWLEDGED AND *DE FACTO* INNOVATORS

Social innovation is a fashionable expression in Japan, and a wide variety of organizations including businesses (Hitachi Co., Ltd.), foundations (The Nippon Foundation), and civil society organizations use it in their own ways. However, understanding is quite general, roughly seen as "innovations that tackle social issues." Because of language barriers, even scholarship on the subject, with a few exceptions (including [1, 2]), remains largely unaware of recent developments in social innovation concepts happening in other parts of the world.
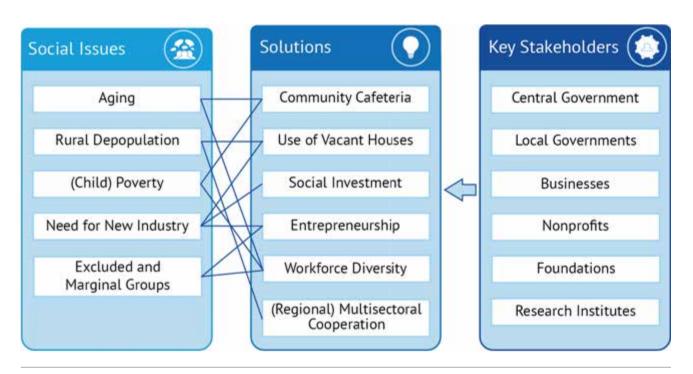
> **Many social innovators in Japan may not necessarily use the term social innovation.**

Therefore, it is worth mentioning that while many social innovators in Japan may not necessarily use the term social innovation, they are focusing on specific issues and creating real impact. Some examples of de facto social innovation areas and the related parties from different sectors are listed in the figure.

CASES

To briefly introduce a few cases of social innovation happening in Japan, the Hokkaido Green Fund is a well-known example of a nonprofit that builds windfarms by collecting funding from the general public. Especially after the 2011 Fukushima nuclear disaster and the introduction of the feed-in-tariff (FIT) scheme the number of community-based renewable energy initiatives, including ones led by local municipalities (Iida city for solar and Shimokawa village/Maniwa city for forest biomass energy), is increasing, despite facing technical and financial challenges.

Integrating people with various disabilities (physical, mental, intellectual, and developmental disorders) into the workforce is another major field. Innovators include Litalico, a company providing assistance for people with disabilities to work in companies. Other examples are Swan Bakery and Yamato Transport, which provide workplaces for people with disabilities, and The Japan Sun Industries, a social welfare organization working with large companies such as Omron, Honda, and Mitsubishi Corporation by setting up joint ventures to provide employment in manufacturing or computer system development.

For local communities and governments in danger of disappearing, it is critically important to attract more (younger) people and to create local businesses. Some famous examples are Ama town, an island that is luring in an influx of young people and students, and Benesse / Fukutake

Issues, solutions, and stake-holders of social innovation in Japan [1, 2, 3, 4]

Foundation's efforts to revive the Setouchi inland sea region as a center of contemporary art. Another interesting case is Kyoto city, the ancient town well known both for its conservatism and for its eagerness to incorporate new things. In 2015, the city launched the 'Social Innovation Cluster Concept' and since then has been cultivating social businesses through its own certification system, incubation and consultation support, and training programs under an umbrella organization called Social Innovation Laboratory Kyoto (SILK). The city government, local businesses, and academia including Professor Nobuyoshi Ohmuro (also the Director of SILK) as well as the Social Innovation Course at Doshisha University have formed a distinctive regional ecosystem to support this initiative.

> **As a country that was once (if not still) proud of the idea that all Japanese people are middle class, poverty is a sensitive topic which many people are not happy to even acknowledge as a problem.**

As a country that was once (if not still) proud of the idea that all Japanese people are middle class, poverty is a sensitive topic which many people are not happy to even acknowledge as a problem. However, social activists, scholars, and philanthropists have worked to raise awareness of the fact that many people are already in a difficult situation due to unstable employment conditions, and that over 16 % of children are living below the poverty line, defined as households living on less than half of the national median income. There are now community cafeterias run by nonprofit organizations and local volunteers to help these children and other needy groups, operating in collaboration with local governments, schools, and food stores. In Saga prefecture, the money to support these cafeterias is collected by the prefectural government through tax-exempt crowd funding and distributed to community groups.

These are only a few examples of social innovation initiatives happening in Japan, though little is known to the outside world due to the limited availability of information in English or other non-Japanese languages. Throughout these cases, we can observe some distinctive features of Japanese social innovation initiatives:

1. Diversity of services provided based on community needs;
2. Successful multi-sectoral collaborations happening often on local / municipal levels;
3. Innovative methodologies applied for fundraising including crowd funding, collective investment by the general public, and taxation diversion schemes to support specific projects, though still only in a limited number of cases;
4. Initiatives often stay small, focusing on a specific geographic area, or a limited number of stakeholders such as a certain beneficiary group with a particular issue.

WHAT IS PREVENTING FULL-SCALE SOCIAL INNOVATION IN JAPAN

But then, what are the problems facing social innovation in Japan? Ironically, it is the lingering nostalgia for the 'golden age' when Japan was enjoying rapid economic growth as one of the export-oriented industrial giants from the 1960s to the 1980s. Policymakers' hopes of reviving Japan with the conventional growth model may be helpful for manufacturers, but this approach also keeps so-called 'zombie companies' alive and misses out on the opportunity to replace them with new industries and companies. Without a clear vision and a paradigm for the future post-industrial Japanese society, these individual social innovation initiatives may have difficulty 'scaling' beyond a limited level of success and impact, and remain beautiful but small in scale, like a bonsai (an ornamental miniature potted tree).

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CANADA'S SOCIAL INNOVATION ECOSYSTEM SHIFTS INTO HIGH GEAR

Canada's social innovation ecosystem, expanding from nonprofits and co-ops to government and business, is evolving from improving systems to enabling a paradigm shift in system change. Social innovators now shape Canada's ability to align across sectors to innovate transition to a carbon-free, socially just economy.

Tim Draimin / Stephen Huddart

Canada's strong history of social innovation (SI) highlights individual innovations. Think of indigenous social innovations like the Haudenosaunee's Great Law of Peace, an oral tradition reflecting democratic ideals that influence North America's representative governments. The Haudenosaunee (the 'Six Nations', comprising the Mohawk, Onondaga, Oneida, Cayuga and Tuscarora people) laid out 117 articles for collective wellbeing whose principles influenced concepts ranging from federalism to division of powers. Another example is the 1897 creation of the Women's Institute, now a worldwide federation credited with being a watershed catalyst for the 20th century women's movement. But 19th century challenges have given way to 21st century ones forcing the social innovation movement to accelerate ways in that it engages, re-focuses and shifts the mainstream innovation system. Canada is on the frontlines of pressing social and ecological issues, whether confronting indigenous reconciliation or climate change.

EXPANDING FINANCIAL SUPPORT FOR ENABLING ECOSYSTEM ASSETS

Recent decades saw significant foundations' (and to a lesser extent governments') investments in ecosystem assets, such as educational and capacity building programs, learning and advocacy networks, and finance infrastructure. Prominent supports include investments in social enterprises (now supported by the **Social Enterprise Council of Canada**), the dynamic social economy in Québec (led by the Chantier), and the rapidly expanding development of SI education and accelerator programs across numerous post-secondary institutions. There is an important on-going academic and public discussion of social innovation such as "are social innovations necessarily systemic in character?", "which

> ## Today's challenge is enhancing the ecosystem focus beyond activities favouring individual innovators.

initiatives are in scope: product, process, program, policy, project, or platform?" But the dominant definitional approach, like Toronto's successful co-working innovation hub developer **Centre for Social Innovation's** (CSI), is broad and flexible: "Social innovation refers to the creation, development, adoption and integration of new and renewed concepts, systems, and practices that put people and planet first."

Today's challenge is enhancing the ecosystem focus beyond activities favouring individual innovators. Next is building stronger systems change supports and cross-sector collaboration platforms, recognizing the critical role of public policy. 2019 is a milestone year for Canada's SI ecosystem starting this shift. The context was set in 2017-2018 with a range of new, transformational, institutional initiatives capable of engaging all sectors with a sustained backbone institutional support infrastructure. Part of this is the new focus on transition planning starting in several universities, such as the **Transition Accelerator** launched in 2019.

MATURING SI ECOSYSTEM EMBRACES SDGS AND NATIONAL MISSIONS

In addition, opportunities are emerging to dovetail these growing SI capabilities with a more prominent alignment of public resources around challenges targeting solutions. Canada's federal government is committed to implementing the United Nations Sustainable Development Goals (SDGs), 2030 Agenda. However, an SDG readiness review by Canada's

SKILLS AND CAPACITY
for equipping social purpose organizations with necessary knowledge and resources

FUNDING AND CAPITAL
to empower social purpose organizations (SPOs) to develop, test, adopt, and grow innovative solutions

MARKET ACCESS
for SPOs to find buyers

AN ENABLING POLICY & REGULATORY ENVIRONMENT
creating opportunities for SPOs to flourish

EVIDENCE & KNOWLEDGE SHARING
so that SPOs and funders collaborative on what works, improving their goods and services, and scaling their impact and evaluating their progress

AWARENESS & MOBILIZATION
to catalyze interest and build engaged support for the growth of social innovation and social finance approaches

Co-Creation Steering Group Themes – Social Innovation and Social Finance Strategy: The Social Innovation and Social Finance Strategy Co-Creation Steering Group (SISFS) systematically analysed the opportunity to improve the enabling context by identifying these **six interconnected areas** framing the 12 recommendations.

Auditor General noted in 2018 that Canada lags behind on building implementation platforms: "there...was no implementation plan with a system to measure, monitor, and report on progress nationally." The politics and governance of accountability systems remains a challenge. But there are three leading indicators of the ecosystem's developmental shift.

1ST: CO-CREATION PRODUCES A COMPREHENSIVE POLICY AGENDA

The single most important breakthrough has been the federal government's initiative, conducted by the **Department of Economic and Social Development Canada** (ESDC), to strike a joint government-civil society policy taskforce representative of national stakeholders that analyzed ecosystem barriers and opportunities. After 18 months' work, they produced a ground breaking and comprehensive set of 12 detailed policy recommendations framed by six big issue areas:

INCLUSIVE INNOVATION – NEW IDEAS AND NEW PARTNERSHIPS FOR STRONGER COMMUNITIES.

GOVERNMENT & PUBLIC SERVICE INFRASTRUCTURE
❶ Anchor commitment and long-term policy action toward social innovation and social finance in Canada through federal framework legislation.
❷ Establish and fund a permanent multi-sectoral Social Innovation Council.

CAPACITY BUILDING
❸ Improve social purpose organizations' access to federal innovation, business development and skills training programs.
❹ Establish a cross-sector Social Innovation Ecosystem Program to address gaps in early-stage support, capacity building and impact measurement.

FUNDING AND CAPITAL
❺ Create a Social Finance Fund to accelerate the development of social finance ecosystems across Canada.
❻ Ensure federal funding practices support and enable social innovation.

MARKET ACCESS
❼ Incorporate social procurement guidelines, tools and training into Government's focus on a cohesive sustainable procurement plan.

POLICY & REGULATORY ENVIRONMENT
❽ Address the legal and regulatory issues impeding charities and non-profits from engaging in social innovation, social finance, and social enterprise.
❾ Develop regulatory innovation capacity using 'sandboxes' to explore and experiment with new models.

EVIDENCE & KNOWLEDGE SHARING
❿ Establish a Social Innovation Evidence Development and Knowledge Sharing Initiative.

AWARENESS & MOBILIZATION
⓫ Coordinate a national social innovation and social finance awareness campaign.

Co-Creation Steering Group Recommendations – Social Innovation and Social Finance Strategy: The Steering Committee made **twelve recommendations** organized here by themes. The recommendations are designed to help unlock the ability of Canada's social purpose organizations to make progress toward the Sustainable Development Goals – the targets that Canada has committed to under the United Nation's 2030 Agenda for Sustainable Development.

An indication of the government's serious commitment to the SI agenda was the 2019 budget commitment of $805 million for a Social Finance Fund. It is an opportunity for all sectors to pattern new collaborative ways of infrastructure development. Canada's credit union sector has been a critical partner with Vancity playing a boundary spanning role.

2ND: CREATING AN ALL-SECTOR NATIONAL PLATFORM

The second most important development shaping Canada's social innovation potential was the establishment in 2018 of a national ecosystem support platform: **Social Innovation Canada**. Its strategy reflects the highly regionally specific character of Canadian ecosystem building. **SI Canada**, housed at CSI, is geared towards decentralized supports for regional initiatives (Atlantic Canada, Quebec, Ontario and Western Canada) enabled with a national knowledge and learning system. Importantly SI Canada is funded by philanthropy, government and the private sector.

3RD: PUBLIC SECTOR TRANSFORMATION SUPPORT SYSTEM

The third most significant development has been the role played by the federal government's central agency, the Privy Council Office, which has championed social innovation for a decade. In 2017, it created an innovation support platform,

called **Impact Canada**. Its role is to test and accelerate 'outcomes-based' funding approaches and help initiate a mission-driven approach to transforming government.
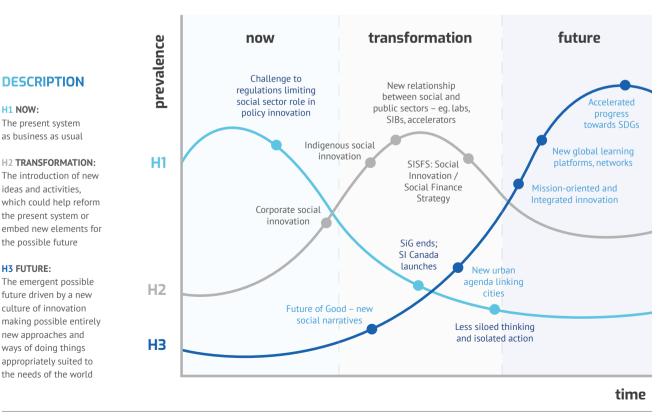
OTHER INDICATORS: THE GROWING NATIONAL ECOSYSTEM

The accelerating development of SI assets includes strengthening the learning and mutual support across the country. An emerging post-secondary movement is developing peer-learning and action circles accelerating 'social infrastructure': new society-serving assets and programs beyond research and education.

In June 2018 CONVERGE, hosted by **Simon Fraser University's Radius Lab**, was the first national gathering of social innovation labs, attended by over 130 people. Research identified at least 56 labs founded since 2008.

CORPORATE SOCIAL INNOVATION EMERGING

Corporate SI, where a corporate generates public value by innovating to tackle pressing social and environmental challenges as part of the core business strategy, is less developed but growing. Leading examples are Suncor (corporate Canada's most prominent ecosystem and

DESCRIPTION

H1 NOW:
The present system as business as usual

H2 TRANSFORMATION:
The introduction of new ideas and activities, which could help reform the present system or embed new elements for the possible future

H3 FUTURE:
The emergent possible future driven by a new culture of innovation making possible entirely new approaches and ways of doing things appropriately suited to the needs of the world

Three Horizons Chart – Canada's social innovation activities

capacity building supporter sponsoring **Banff Centre's SI Certificate Program, ABSI Connect**), Cisco Canada (initiator of **Connected North** that builds educational assets in partnership with northern aboriginal communities and southern Canada civil society) and Maple Leaf Foods (launching **Maple Leaf Centre for Action on Food Security**). **Global Canada**, engaging corporate leaders, is working in partnership with **MaRS** (Canada's leading innovation hub) to expand participation in collaborative social change.

CONCLUSION

Canada's generously financed mainstream innovation system, founded on STEM and business innovation, is evolving. Canadian social innovators are moving into the mainstream and developing a new innovation narrative underpinned by social and ecological values, based on evidence, and propelled by strong cross-sector innovation platforms and advocacy coalitions. After decades working in sectoral silos, the ambitious community is challenged to transition from individual identities to collaborative-action change systems. These challenges are addressed by the new public policies catalyzed by the ESDC co-creation group and enabled by SI Canada.

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ENACTING SOCIAL INNOVATION IN SCOTTISH WELFARE: REGIONAL CHALLENGES

The Scottish Government's investment in social innovation reflects the European focus on resolving 'wicked' societal problems through socioeconomic solutions. In welfare, local governing agencies play a key role in delivering opportunities for social innovation in Scotland which might resolve some social challenges.

Fiona Henderson

INTRODUCTION

Social innovation in Scotland has been argued to present a threat to local institutions invested in the regional status quo as it will inevitably disrupt the current social equilibrium to some degree, including governing structures [1, 2]. Paradoxically, it has also been argued that the social innovation policy agenda in Europe maintains these existing structures and institutions [3] through policy interpretation at local municipal level. This historical institutionalism ensures the structural dominance of local state agencies, enabling their control of regional health and social care quasi-markets, and sustaining their regional governance through nationally and internationally turbulent economic and political times [1].

The definition underpinning recent European Commission policy [2] frames social innovation in socioeconomic terms, describing it as the creation of new products, services and/or models that generate new collaborations, meeting social needs while being good for society [4]. Cattacin and Zimmer [5] argue that this economic perspective brings a Darwinian element to the definition which is not useful when explaining the emergence and development of social innovation at a local level. They propose instead that it is a political process which is highly embedded in the local environment.

Social innovations are emerging in Scotland as a result of Scottish Government policies. For example, there is a growing number of Scottish community buy-outs arising from the Land Reform (Scotland) Act 2003 that in turn drive bottom-up social innovations, generating new socioeconomic opportunities for depleted communities. Similarly the Community Empowerment (Scotland) Act 2015 has now led

to the development of The Participatory Budgeting Charter for Scotland (2019), allowing communities to take control of some aspects of local government spending. While these policies are supporting local transformations and shifts in power, conclusive evidence has yet to emerge of the long-term success and sustainability of these social innovations. These initiatives, like other social innovations in Scotland, are often subsumed by – or discussed as synonymous with – the state-controlled social enterprise sector.

THE INEVITABILITY OF SOCIAL ENTERPRISE

In Scotland, like the rest of the UK, the relationship between social enterprise and social innovation can be dated back to the early conceptualisation of social enterprise as innovative and disruptive. This social innovation-social enterprise discourse enables the Scottish and UK Governments to frame social enterprises as innovative and sustainable, thereby showing their support for community-led economic solutions to social challenges.

> This social innovation-social enterprise discourse enables the Scottish and UK Governments to frame social enterprises as innovative and sustainable, thereby showing their support for community-led economic solutions to social challenges.

The Scottish social enterprise sector references characteristics of social innovation at micro-, meso- and macro- levels. At the micro-level, the Scottish government funds agencies and networks across Scotland that offer grants and financial support directly to local social enterprises and community businesses. These agencies focus on *creating new services, products and/or models* through social enterprises, and generating *new collaborations and relationships* to grow social enterprises.

At meso-level, local Scottish institutions are currently undergoing a significant period of transformation under the politically-driven UK austerity agenda, which has significantly cut funding to local authorities (municipalities) across the last decade. As a result, the local authorities are undergoing a fiscally-driven transformation that has required all 32 local authorities to work more closely with the social enterprise sector. Early research evidence has shown that in some local authorities this transformation is supporting social enterprise-led social innovations in welfare, yet in others it is preventing social enterprise-led social innovations [1, 2].
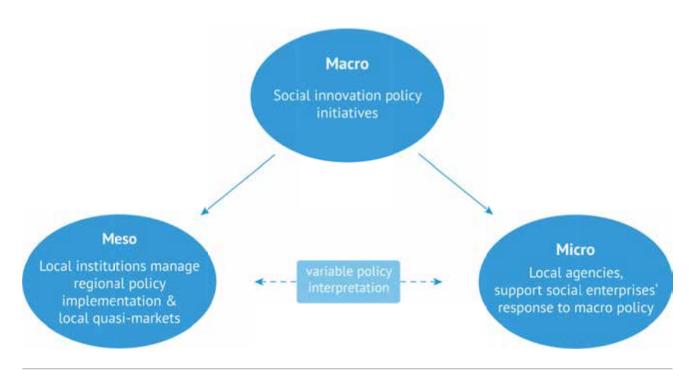
At macro-level, the Scottish Government, like the UK Government, explicitly locates social innovation in welfare within the third sector, including social enterprise. This was evidenced by the Social Innovation Fund, which aimed to create new community-led initiatives to tackle poverty and improve wellbeing, and the Growing the Social Economy Programme.

Strategically, the Scottish Government has adopted the neoliberalist political rhetoric of self-responsibility and self-reliance, reducing the paternalistic discourse around health and social care as significant budget cuts reduce local authority provided welfare services. Social enterprise as the provider of sustainable community-led solutions to social challenges fits neatly under this new self-determinist approach. Evidence of this political commitment to social enterprise includes:

• Scotland's Social Enterprise Strategy 2016-2026;
• The Social Enterprise Census conducted every 2 years;
• Building a Sustainable Social Enterprise Sector in Scotland: Action Plan 2017-2020.

In addition, Scotland has created a complex state-led ecosystem with over 50 key actors, most of whom are funded at least in part by the Scottish Government. These agencies, institutions and organisations provide new and existing social enterprises with development advice, skills training, funding and networking, whilst enabling the Government to retain control over the agendas pursued by each.

Scottish political commitment to community-led social innovation through social enterprise therefore does support localised regional responses to social challenges. However, beyond this, political support remains a lack of academic evidence demonstrating the value of social enterprise's contribution to the delivery of welfare and social care services.

Enacting socially innovative Scottish policies

WELFARE AND SOCIAL INNOVATION –
AN EXAMPLE

Academic evidence suggests welfare services in Scottish local authority (municipality) areas are not being replaced on a significant scale by social enterprise-led social innovations, despite claims of shift in the UK towards the marketization of welfare [2]. This is not a result of a lack of evidence of such initiatives' effectiveness, but rather it reflects local authorities' traditional risk aversion which prevents the devolution of responsibility for vulnerable citizens to organisations perceived as unproven or unsustainable.

This was demonstrated in a qualitative study of stakeholders in the Scottish Self-Directed Support (SDS) ecosystem, which traced a socially innovative policy from development to implementation, and documented the resulting emergent socially innovative initiatives in regional social care [1]. However the study also demonstrated that these socially innovative initiatives were highly dependent on the interpretation of the policy at local authority level.

Scottish SDS policy empowers budget holders to direct their own care, giving them a choice and control over how they spend their SDS budget, including what they spend it on and from whom. In a limited number of regions in Scotland, this policy has been closely followed and implemented as the policy document intended. In some areas, the policy has driven the emergence of a thriving socially innovative sub-culture of microenterprises offering socially innovative social care services (e.g. writing; herbal medicine; walking; life coaching) that breaks away from traditional 'cleaning and shopping' social care provision. This is particularly the case in some remote rural Scottish areas where socially innovative solutions have emerged from necessity as budget cuts, combined with increased pressure from the ageing Scottish demographic, have reduced service availability [1].

In other Scottish regions, however, local authorities have interpreted SDS policy to maintain the status quo, insisting SDS budgets must only be spent on traditional home care services from a limited number of large organisations the local authority has pre-approved. This has inhibited the development of social innovations by providers in those regions, and prevented microenterprises and small social care organisations from participating in the market due to this pre-approval process [1]. This control of the social care quasi-market through local policy interpretation in those regions evidences both the political influence (dictating organisation size and approval) and the Darwinian nature (only the favoured fittest survive) of the emergence of regional social innovation.

CONCLUSION

The current social innovation political discourse in Scotland is socioeconomically-led and focuses on social enterprise. Evidence from social care suggests some Scottish regional local authorities have created a Darwinian competitiveness in local quasi-markets, supporting large organisations to maintain their historic service delivery and so negatively impacting the organic emergence of future socially innovative transformations.

> **This paradox of social innovation disrupting regional institutional governing structures whilst responding to national and international policy initiatives highlights the need for evidence-based theories.**

Social innovation continues to pose a threat to local institutions and their historical governing structures. This paradox of social innovation disrupting regional institutional governing structures whilst responding to national and international policy initiatives highlights the need for evidence-based theories to explain the contexts in which Scottish social innovation is successfully and sustainably enacted. Such theories should embrace the complex Scottish ecosystem of political, economic, social and environmental influences on emerging social innovation.

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SOCIAL INNOVATION IN SPAIN: THE LEADING ROLE OF CIVIL SOCIETY

Social innovation has not yet found its place in the Spanish public agenda. Although Spain participates in EU initiatives on social innovation and has a national framework programme for innovation in general, the development of social innovation schemes and plans have been consistently put into civil society's hands and, more recently, onto some cities and municipalities promoting citizen-led initiatives.

Javier Ramos

OVERVIEW

Spain ranked 28 out of 45 countries in the 'Social Innovation index' carried out by The Economist [1]. It is the most notable underperformer, alongside Japan, considering its income level. The report underlines little national public awareness of social innovation (SI), lack of national-level strategies and funding to encourage its adoption. In addition, research and impact measures are still insufficient and total social public expenditures are comparatively lower than EU standards.

Until the 2008 financial crisis, Spain had experienced a remarkable decade of economic growth and job creation. Yet, this economic growth was only partially effective in modernising Spain as it failed to turn the country into a productive and competitive economy. The "Spanish miracle" was manifested in a growth model that was highly dependent on low competitiveness and low productivity sectors, with high trade deficits. Spain is one of the countries where inequalities increased the most during the crisis, and it is part of the group of OECD countries with the highest aggregated levels of inequality. The risk of financial gridlock has triggered urgent institutional changes in social protection, which have been paralleled with severe social spending cuts [2].

> **Civil society has assumed a leading role in expanding and promoting SI that imposes some limitations but also opens new windows of opportunity to consolidate a bottom-up pathway.**

In this scenario, civil society has assumed a leading role in expanding and promoting SI that imposes some limitations but also opens new windows of opportunity to consolidate a bottom-up pathway.

DEVELOPING AND REINFORCING SOCIAL INNOVATION FROM CIVIL SOCIETY

Given the weak role of public institutions, the most successful initiatives have emerged from civil society groups that have created an increasingly well-articulated network of experienced and professional nodes. This reaction has spread to practically all aspects of SI from financing to entrepreneurship, and through co-working spaces, production and consumption. Although this is not the place for a detailed account of the thousands of SI projects, enterprises and initiatives promoted by civil society organisations, some data and tendencies show the importance of civil society in promoting SI in Spain. 'Responsible & Sustainable Investment' (R&S) has achieved €185,000M, with 16% annual growth. Although it is difficult to foresee the amount exclusively devoted to SI, the report underlines a new type of R&S investment called 'social impact investment' that achieved €310M in 2017 [3].

Similarly, crowdfunding platforms, projects, investors and money raised have increased significantly in the last years, moving from €17M in 2013 to €156M in 2018. Around €40M are social impact investment [4]. The development of coworking spaces are increasingly becoming the natural environment for new initiatives and entrepreneurship models highly related to SI logics. There are 1,547 coworking spaces nowadays, which offer 504,000 square meters, 33,000 working spaces and raise €140M/year [5]. Entrepreneurship

is also key in the promotion of SI. The creation of new types of enterprises highly connected to SI logics and methods are growing significantly.
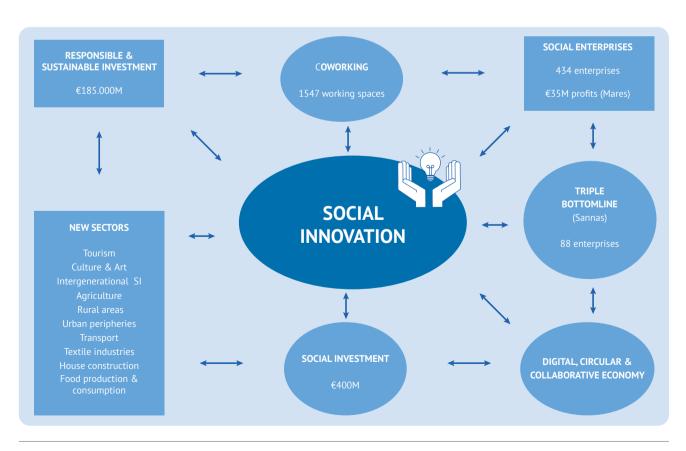
Among the most successful entrepreneurial initiatives, we highlight SANNAS and REAS. The first is an association formed by 88 entities and social enterprises within the framework of the Triple Bottomline economy (Economic-Ecological-Social). REAS (Alternative and Solidarity Economy Network) is an association made of 382 social enterprises that represent 88 % of the total social enterprise sector in Spain. They have created 8,967 jobs and earned €35 million in net profits.

This steady and consistent growth opens a very attractive scenario for SI in Spain. The expected involvement of public institutions in SI may significantly improve this civil network. However, if the arrival of the administration displaces the civil society instead of reinforcing it, then the drive and creativity shown by the Spanish civil society is likely to vanish. Yet, if the administrations make themselves available to existing projects, helping their sustainability by providing technical assistance and financial support, then the 'Spanish model' based on civil initiatives may combine to form an alternative. The project MARES is a good example. It is a pilot project promoted by the Madrid City Council together with eight civil society partners and EU funds. Within this activity, 100 projects mainly focusing on energy, recycling, food, human care and mobility have been advised. In addition, 197 projects for self-employees in the social economy have been launched and 200 citizen initiatives have been identified and promoted.

'Match-funding' is also increasing. Some public administrations, mainly at the local level, participate as backers in those crowdfunding social projects that have an impact on their municipalities. Similarly, new tax benefits apply to those social foundations specialised in financing SI projects and an increasing number of municipalities provide subsidies to those young social entrepreneurs not able to afford co-working spaces at market prices. This nexus comprising public administration and civil society expresses a new conception of how administrations are meeting the challenge of collaborating with SI initiatives stemming from civil organisations (bottom-up logic).

> **Spanish administrations, however, must also implement pro-innovation policies at the macro level.**

RESPONSIBLE & SUSTAINABLE INVESTMENT

€185.000M

COWORKING

1547 working spaces

SOCIAL ENTERPRISES

434 enterprises

€35M profits (Mares)

SOCIAL INNOVATION

TRIPLE BOTTOMLINE (Sannas)

88 enterprises

NEW SECTORS

Tourism
Culture & Art
Intergenerational SI
Agriculture
Rural areas
Urban peripheries
Transport
Textile industries
House construction
Food production & consumption

SOCIAL INVESTMENT

€400M

DIGITAL, CIRCULAR & COLLABORATIVE ECONOMY

Sources and instruments to promote SI from civil society in Spain

Spanish administrations, however, must also implement pro-innovation policies at the macro level. The debate on the necessity of transforming the productive model into a highly productive and value-added economy has been frequently invoked to overcome the crisis. Yet, public expenditure in research and development (R+D) has been continuously cut, down to 1.18 % GDP (2018), which contrasts with other leading countries where private expenditure in innovation is higher than public ones. Indeed, Spain is one of the few big European economies where public expenditure in R+D is still higher. It is thus imperative to link technical and social innovation at country level, putting the emphasis on inclusive growth strategies by catching up with EU countries in social and R+D expenditure. This two-fold strategy focuses on enforcing civil society projects, and reinforcing the social and innovative character of the Spanish economy to put Spain at the forefront of a new era of SI.

CONCLUSION

The leading role of civil society in promoting SI initiatives is certainly good news. Yet, a two-fold strategy is required to spread and consolidate SI in Spain, and to put this country in a coherent position relative to its income level. On the one hand, it is necessary to raise public awareness and engagement with the SI ecosystem in order to strengthen the role of public institutions and educational system in promoting and financing SI initiatives. This is particularly relevant to EU initiatives on SI. On the other hand, a new agreement/commitment including public/private institutions and civil society is needed in order to co-design new SI programmes and also to activate and connect consolidated players while encouraging newcomers and new initiatives.

This strategy must coexist with an ongoing effort to catch up with its European partners in technical and social innovation by increasing expenditure in order to consolidate a model where civil society continues to play a key role in SI.

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SWITZERLAND: TECH BEACON DISCOVERS SOCIAL INNOVATION

Switzerland has often topped the Global Innovation Index and prides itself for an environment that allows innovative minds to flourish – at least when it comes to technological and scientific innovation. Social Innovation has taken a backseat, with stakeholders only recently discovering potentials.

Claudia Franziska Brühwiler

(POTENTIAL) DRIVERS OF SOCIAL INNOVATION

The features that make Switzerland a preferred setting for technologically innovative industries could make it a hub for social innovators once the notion has spread. So far, federal and cantonal governments have not made a concerted effort to promote social innovation nor can we make out a common understanding of the term, but we see activities to let the concept take root. The following actors have already established themselves as drivers of social innovation and/ or could become key to unlock the country's potential:

> ## We see activities to let the concept take root.

Business

Both social entrepreneurs and traditional companies have the potential to initiate social innovations. Historic examples show that Swiss entrepreneurs do not shy away from social responsibilities, with, for instance, today's largest retailer Migros having made further education accessible to the masses in the late 1940s. Currently, companies have started to embrace new roles as a consequence of their CSR toolbox, letting multinationals join forces with NGOs and development agencies. Such collaborations are likely to increase, as many companies are mindful of the UN Sustainable Development Goals (SDGs), with, for instance, pharmaceutical companies such as Roche and Novartis or transnational giant Nestlé reporting on their contributions towards attaining the SDGs.

Social entrepreneurs

Although research has shown that social entrepreneurs are not the main drivers of social innovation, they are still among those creative forces that are shaping our perception of new approaches to existing problems. In Switzerland, social enterprises have been particularly well received when they address pressing social issues. As a case in point, Dock Gruppe AG has become synonymous with a successful, market-oriented social enterprise that offers long-term unemployed people a chance to work and earn a salary. Simultaneously, the company has become known as a provider of recycling services that would normally have to be outsourced abroad [1]. It has thus inspired traditional companies to rethink their supply chain and integrate social enterprises in their own processes. As the notion of social entrepreneurship has spread widely and co-creation spaces such as the Social Impact Hubs have popped up in various cities, such ventures will increasingly influence traditional business approaches.

Civil society

Social innovations aim at the common good, which is why many argue that their acceptance ultimately depends on civil society. Switzerland prides itself of a particularly strong citizenry: 80 % of its citizens take part in at least one voluntary association ('Verein'), and the political system fosters civic engagement through frequent calls to the ballots and popular initiatives. Such initiatives have been and continue to be the seed for profound changes in how social issues are addressed. For instance, the association 'Grundeinkommen Initiative' is exemplary of how the volunteer force in Swiss society can trigger social innovations. Thanks to the association, Switzerland was the first country to vote on the introduction of a universal basic income in 2016. Although the popular initiative failed, the referendum triggered a debate in society regarding alternatives to the current social security system.

Foundations

Foundations are particularly suited to further social innovation as they may embark on new avenues that public funding institutions might deem too risky. According to recent figures, more than 13,000 foundations manage 97.4 billion Swiss francs in total [2]. The majority of them concentrate their activities on social issues, education, and

DRIVERS OF SOCIAL INNOVATION

BUSINESS
TRADITIONAL BUSINESS AS SOCIAL INNOVATOR

A retail company opening up further education to the masses – multinationals pursuing the SDGs and collaborating with NGOs and social enterprises.

SOCIAL ENTREPRENEURS
ENTREPRENEURIAL ANSWERS TO SOCIAL ISSUES

Giving long-term unemployed people new perspectives – and stopping outsourcing abroad at the same time.

CIVIL SOCIETY
KEY TO ACCEPTANCE OF INNOVATIONS

Voluntary associations and direct democracy as means of popular involvement and drivers of political debates.

FOUNDATIONS
GIVING NOVEL APPROACHES A CHANCE

From funding opportunities for social innovators to the establishment of academic centers – foundations serve as initiators and multipliers.

GOVERNMENT
RE-THINKING THE BEATEN PATH

Agencies encouraging entrepreneurial thinking and solutions to establish better solutions to pressing issues.

ACADEMIA
RESEARCH AND INSPIRATION

First centers and chairs set-up at pathbreaking universities – and others getting ready to invest in social innovation research.

Potential drivers of social innovation in Switzerland – an overview

research – making them a valuable resource for social innovators. The way they try to encourage social innovations differ, though, as two of the most prominent examples show: on the one hand, there is an interest in furthering research on and knowledge about social innovation. Thus, the 'Gebert Rüf Stiftung' supported teaching projects at universities of applied sciences annually with 1.5 million Swiss francs from 2009 until 2017. On the other hand, foundations may also invest directly into social innovation by supporting solutions and enterprises they deem promising. Elea foundation is not only sponsoring Switzerland's first chair in social innovation at the IMD Business School Lausanne, it also pushes for entrepreneurial solutions to social problems around the world.

Swiss government

Although Innosuisse, the federal innovation agency, concentrates its activities on science-driven innovation, other state institutions are starting to expand their understanding of the term. As is often the case in Switzerland, we are not to expect a centralized effort to push social innovation top-down, but we are likely to see different agencies and administrative units embrace the concept in their own ways and reach out to either the private sector or civil society. The Swiss Agency for Development and Cooperation (SDC), for example, is exploring novel paths by joining forces with the private sector. Social impact incentives, for instance, reward partners for the actual impact they have, giving the SDC a new mechanism to effectuate sustainable change [3].

Academia

In its 2014 report for the Swiss National Science Foundation, the think tank W.I.R.E. concluded that Swiss universities neglected social innovation completely, with the notable exception of universities of applied sciences and the thriving scholarship on social entrepreneurship [4]. At the moment, few universities have heeded the call for more research on social innovation, but 2018 has been a decisive year in putting the issue on the academic map. Both the IMD Business School Lausanne (www.imd.org/elea/elea-center-for-social-innovation/) and the École polytechnique fédérale de Lausanne (https://actu.epfl.ch/news/a-social-entrepreneurship-initiative-at-epfl-2/) have opened centers of social innovation. The University of St. Gallen has also launched a social innovation Initiative (SINI: www.sini-hsg.ch).

> **A more concentrated effort to develop social innovations would be desirable.**

CONCLUSION

From the founder of the World Economic Forum, Klaus Schwab, supporting social entrepreneurship around the world down to parents organizing school lunches in the absence of proper cafeterias, Switzerland is not short of innovative minds. Confronted with the challenges to the modern welfare state and the constantly accelerating pace of technological progress, a more concentrated effort to develop social innovations would be desirable. That does not imply centralized or top-down strategies, but ways to make novel solutions more visible and more likely to spread, thus truly changing social practices.

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SOCIAL ENTERPRISES CONTRIBUTING TO SOCIAL INNOVATION

Following the EC definition, social enterprises are characterised by economic activity, a common good orientation, limits on profit distribution, and high participation opportunities for stakeholders. Many organisations in Germany fulfil these three defining characteristics. They are expected to contribute to social innovation.

Nicole Göler von Ravensburg / Gorgi Krlev / Georg Mildenberger

INTRODUCTION

Social innovation requires cross sector collaboration, and is not driven simply by one type of actor. In the last decade, we have seen increasing evidence that 'third sector' and civil society organisations (CSO) are important actors in the processes of social innovation. [1]

Beneath the wider term of CSO terms like 'Social Enterprise', 'Social Business', 'Social Start-up', and 'Social Entrepreneurship' and even some of the more traditional 'Welfare Organisations' are quite present in the German debate on social innovation. These organisations are embedded in the discourses on sustainability, the Sustainable Development Goals or social impact investing. All these phenomena share an ambiguity; they are neither 'business as usual' nor altruistic engagement, rather these terms represent something new and fascinating in between.

WHAT ARE SOCIAL ENTERPRISES AND WHAT DO THEY DO?

According to the definition of the European Commission, Social Enterprises (SE) are oriented towards the common good and are economically active, but with clearly defined limits for profits (limitation of profit distribution and asset lock). They are characterised by particularly high participation opportunities for employees, clients and external interest groups. Sometimes they are even referred to as 'democratic organisations'. A broad spectrum of organisations in Germany fulfils all or most of these defining characteristics.

Some are rather small, in early phases and particularly innovative such as those supported by the funding organisations *Ashoka, Social Entrepreneurship Network Germany* (SEND) or *Social Impact Lab*. An example of this is *Dialogue in the Dark*. The organisation is creating new working models for people with disabilities, in particular for blind people. This type of organisation is more likely to be called a 'Social Start-up', which emphasises novelty and innovation. Other recent SE of a cooperative kind focus on innovation through participation.

However, SE can also be organisations that are associated with established welfare associations, have several hundred employees, a broader impact and operate on quasi-markets of the welfare state, e.g. in elderly care. Social start-ups, social coops and established social enterprises are important and necessary in view of the multitude of problems that need to be solved.

HOW CAN SOCIAL ENTERPRISES IN GERMANY BE IDENTIFIED AND NUMBERED?

SE are an international phenomenon. Yet, their numbers, types and the way in which they operate differs from country to country. Some countries such as Italy or Great Britain, have special legal forms for SE. In Germany, on the other hand, this is not the case, which makes it particularly difficult to identify them unambiguously. As a rule, one has to live with uncertainty and be satisfied with estimates.

We carried out such an assessment for Germany as part of the European Commission's 'Social Enterprises and their ecosystem in Europe' project, predominantly relying on data from the 'Civil Society in Figures' (ZiviZ) Survey of the

Stifterverband der deutschen Wirtschaft. This survey covers associations, foundations, cooperatives and organisations in traditional forms of business that have a non-profit status and carry the addition 'g' in their name (e.g. 'gGmbH': limited liability company with common purpose). A representative sample (approx. 6,300 organisations) provides detailed information unlike any other survey in this field.

In order to realistically present the German picture, the sample was first reduced in two ways: umbrella organisations without any own market presence were excluded as were organisations without paid employees and annual turnovers below 35,000 € as these might still have a project character rather than being sustainable. This data set was then extrapolated aligning it with other (sectoral) statistics. Eventually we arrive at a maximum number of approximately 70,400 SE in Germany.

WHAT DISTINGUISHES SOCIAL ENTERPRISES?

Germany thus has one of the largest 'populations' of SE in Europe. No wonder – after all, Germany also has a long tradition of social entrepreneurship. Friedrich Wilhelm Raiffeisen and Hermann Schulze-Delitzsch, the founders of the German cooperative system, are often mentioned as pioneers of social entrepreneurial action. Nevertheless, Germany has one of the weakest ecosystems for SE start-ups. For years, social start-ups have been lacking attention, adequate financing and political support. However, this is gradually developing. In particular, the Federal Ministries of Economics and Energy, Labour and Social Affairs and Family, Senior Citizens, Women and Youth are active.

> **Germany has one of the largest 'populations' of SE in Europe. Nevertheless, Germany has one of the weakest ecosystems for SE start-ups.**

From the ZiviZ sample, we can also derive some information about the nature of German SE. Only slightly more than 50 % of the organisations have a turnover of more than 250,000 € per year. Slightly less than 50 %, on the other hand, employ more than 30 people so they tend to be small organisations. About 60 % of the employees work part-time, this indicates a strong presence of flexible but also precarious employment in the industry. As far as income flows are concerned, we had to resort to other data. Market revenues for foundations and cooperatives accounts for more than 60 %, while for associations and gGmbHs it is only 20 %. Benefits under the social code, state subsidies and private donations for SE are still highly relevant in the ecosystem.

THE NEXUS OF SOCIAL ENTERPRISES AND SOCIAL INNOVATION IN GERMANY

It is evident that social innovation is pushed forward by SE of the 'social entrepreneurship type'. They started to evolve since the 1990s and the new Millennium, influenced to a large extent by the work of the globally active platform and support organisation *Ashoka* and the *Schwab Foundation* who promoted a new (Anglo-Saxon) concept of social enterprises and raised awareness. A group of 'new-style', innovative SE emerged to complement the more traditional 'social enterprise milieu', establishing themselves mainly in market niches. They are responding to trends such as aging, rural depopulation, changing family structures, stronger client demands for integration and autonomy, ethical trade, special pedagogic approaches or care solutions not foreseen by the social code. Hence, their services are frequently not financed through the traditional social security or the private insurance system. However, those organisations are young and small in most cases.

Dialogmuseum Frankfurt

Dialogmuseum Frankfurt gGmbH is a limited liability company with public-benefit status. It was founded in 2005 in order to offer everybody the opportunity to experience at least parts of the sensual world of blind people. The Dialogmuseum sets up everyday situations in complete darkness. Blind and severely visually impaired people guide groups of seeing people through different environments to get a glimpse of the difficulties encountered by blind people; at the same time, non-impaired persons learn to appreciate the special competences that the visually impaired people have developed. This strategy allows the Dialogmuseum not only to offer an unusual experience to non-impaired visitors and to enhance their understanding and appreciation of blind people; at the same time, it also offers singularly qualified jobs for its blind employees. The Dialogmuseum now also rents out its premises for special events, and it has started to offer training courses for companies.

Dialogmuseum is a paradigmatic case of a new-type social enterprise, and it is a case of pronounced social entrepreneurship. It also constitutes an unconventional case of WISE. It serves as a model for many other social enterprises that are based on the idea that people should not be perceived as handicapped or disabled but as gifted with special competencies that can be very useful to others.

Yet, welfare organisations and traditional third sector entities also change: social innovation, entrepreneurial spirit and performance-based management have become important elements in their strategies in recent years. Some seem to recollect their social-entrepreneurial roots from the 19th and early 20th century, when they were crucial actors in the forming of the German welfare state. Many organisations now are experimenting with innovative in-house approaches and looking at solutions developed by new 'market'-entrants.

First 'old' and 'new' actors saw themselves as competitors rather than partners. In recent years, a certain degree of cooperation has been established. Experts consider the establishment of an innovation system linking them as an important step towards the creation of a more effective and efficient third sector. Transformative innovation often comes from small actors who are not burdened with the inertia, blank spots and blindfolds of large organisations. However, the solutions developed by these smaller versatile organisations need the knowledge (a deep understanding of the legal and institutional framework of social care, for instance) of the established organisations, including access to their markets, capacities and financing power to take ideas to scale.

Mission Leben

Mission Leben is an example of a welfare organisation focusing on a broad range of key social-service areas (youth, disability, old age) in combination with its original urge to promote entrepreneurial action within the organisation and to promote the emergence of spin-offs independent from the organisation.

Mission Leben's history dates back to 1849 and it became a registered association in 1899. The provision of social work was started on the initiative of court chaplain Ferdinand Bender. Mission Leben gGmbH, the main service-providing entity, is held by foundation Innere Mission Darmstadt and has nine separate operating enterprises. Nowadays it has 1,835 employees and 520 volunteers who work in Hessia and Rhineland-Palatine across 19 locations in more than 40 organisational establishments.

The organisation also runs some spin-off activities, under the "INTRA Lab" initiative, to foster entrepreneurial action among employees.

CONCLUSION

Germany has a lively landscape of SE that are the main actors with regard to social innovation. The capacity to innovate extends beyond any one type of social enterprise. It exists all over the SE spectrum. Especially when it comes to the implementation of new ideas, established welfare organisations have a huge potential for driving change. Together with all other types of SE they spread social

> **Germany has a lively landscape of SE that are the main actors with regard to social innovation.**

innovation within society. Yet, it is likely that an acceptance for the concept of SE is crucial to fuelling innovation in civil society and the third sector. Further SE research is needed and can contribute greatly to improving the spectrum, metrics and measures that exist cross-nationally. This is essential also to arrive at a more holistic ecosystem map of some of the key actors contributing to innovation.

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This article builds on a mapping report on social enterprises in Germany that followed ICSEM methodology and was performed for the European Commission. [2]

03 /

ECOSYSTEM AND INFRASTRUCTURES FOR SOCIAL INNOVATION

While technological innovation is already a mature concept, the notion of social innovation is just gaining momentum. Similarly, a sound infrastructure supporting the creation and diffusion of social innovations has yet to be built. The establishment of social innovation labs in different parts of the world and in a variety of institutional settings presents how important steps have been taken in formalising the social innovation ecosystem. Furthermore, supportive policies and programmes on national and European levels can further anchor social innovation in society.

The following articles provide an overview of the conceptual development and practical examples of social innovation labs, discuss the role of higher education institutes and present the process of creating a European social innovation declaration.

SOCIAL INNOVATION LABS – A SEEDBED FOR SOCIAL INNOVATION

One way of systemically developing new social practices is to use the social innovation labs (SI lab) approach. The term SI lab describes a variety of different organisational forms and methods – social entrepreneurship hubs, public policy labs, change labs, and many others – with the intention to create socially innovative initiatives.

Eva Wascher / Christoph Kaletka / Jürgen Schultze

INTRODUCTION

Social innovation labs (SI labs) are intermediaries convening and facilitating cross-sector stakeholder working groups. They provide a physical space and/or process in which collaboration between different actors is supported in order to develop new projects, processes, models, products, regulations etc.. The term 'social innovation lab' is used to characterise a variety of different organisational forms and methods. It includes organisations such as centres for social innovation, design labs, change labs, public innovation labs, impact labs, impact incubators, impact learning labs, collective impact learning labs and more [1]. Additionally, there are manifold organisations which are not formally characterised as SI lab, but which fulfil the same or very similar functions.

Following an understanding of social innovation as a newly institutionalised social practice, we can subsume different configurations of labs under the term 'SI lab'. Every social innovation starts with a socially innovative initiative (e.g. a new process, model etc.) mostly resulting from cooperation between different actors working on a specific problem solution (invention). Social innovation labs offer a dedicated space and method to organise and possibly optimise the process to create socially innovative initiatives. Therefore, SI labs are a possible starting point for social innovation, as they help 'socially innovative inventions' to develop.

KEY FEATURES OF THE SOCIAL INNOVATION LAB'S APPROACH

In practice, throughout the last 20 years, organisations have emerged all over the world providing spaces and processes

for multi-stakeholder groups to develop new practices for a specific complex problem, often addressing one of the main societal challenges of our times such as demographic change or climate change. They regularly engage in or at least refer to global social innovation communities. Regarding the majority of mission statements, these organisations share the ambition of solving complex social challenges and presuppose that solutions to these challenges require the cooperation of a diverse set of stakeholders, often across societal sectors (private business, public authorities, science and civil society) [2]. In general, social innovation labs share the following five key characteristics:

- They provide institutionalised processes and spaces for experimentation (organisations or organisational units, structures & resources),
- facilitate innovation processes (use innovation methods, e.g. co-creation, collective intelligence, design-thinking),
- work on societal challenges and demands framed as specific questions,
- engage with cross-sectoral, multi-stakeholder teams,
- create 'practice inventions' (socially innovative initiatives) as prototypes with high innovation potential.

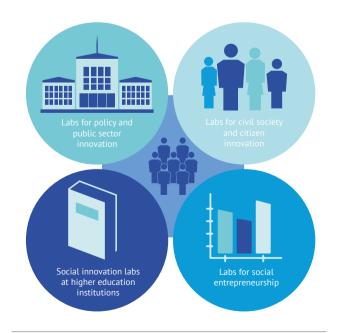Taking into account the different stages of SI processes, SI labs have an impact especially on ideation and prototyping/testing rather than on diffusion and systemic change processes. Once a lab intervention is being carried out in a certain context it has to deliver on its social innovation potential.

> **The term 'social innovation lab' is used to characterise a variety of different organisational forms and methods.**

A TYPOLOGY OF LABS

SI labs serve a multitude of topics and different contexts of societal challenges. They can be run on any scale, e.g. on an inter-organisational, local/neighbourhood/urban level, on regional and national levels and even on a global level. Some SI labs focus on social innovation in general, some are related only to public sector innovations and some have a thematic focus such as on environment, work or health [3]. They also have quite diverse ownership and financing models. As SI labs can be found in all societal sectors, a typology can be developed along these lines. Accordingly, we can observe the following types of labs:

1. **Labs for social entrepreneurship** provide a shared working space for initiatives working on the cross-boundaries of civil society and business and seek support either for consultancy, e.g. for founding an organisation, or for diffusion of a social entrepreneurial business model. This way, new non-profit associations and businesses are created. On the other hand, social entrepreneurial organisations use co-working spaces as a preferred way of office renting. This way, labs for social entrepreneurship combine incubator and acceleration models. They provide co-working-spaces and networking for social entrepreneurship.

2. **Social innovation labs at higher education institutions** support projects by students and researchers which aim at social innovation. These particular science centres link education and innovation for solving societal challenges. Often, they provide special programmes for children and citizens. Furthermore, certain programmes are developed in order to cooperatively design and engage in research, thereby involving lay knowledge and the expertise of stakeholders which as end-users will be responsible for

applying research outcomes in practice. Here, inter- and transdisciplinary cooperation (linking different disciplines and non-academic actors) is emphasised to develop socially innovative initiatives.

3. **Labs for civil society and citizen innovation** are spaces and processes which gather actors, e.g. in a neighbourhood district or city to cooperatively create specific solutions for societal challenges. These labs are often owned by non-profit organisations and their innovation processes aim at a broad participation of other civil society actors as well as citizens. Socially innovative initiatives of civil society organisations often require strong engagement of citizens.

4. **Labs for policy and public sector innovation** are most often owned by organisational units of public administrations, e.g. to enhance cross-departmental cooperation over different policy fields and to enhance participation with actors outside the public sector realm. As these labs serve a governance approach (instead of a government approach) they are commonly abbreviated as 'GovLabs'. GovLab innovations often refer to novel practices within the organisation (e.g. by applying new technologies). On the other hand, a growing amount of GovLab innovation processes involve cross-sectoral, multi-sector participation.

It is important to note that although a lab might be owned and financed by one sector the concept and practice of social innovation emphasises multi-sectoral cooperation in the generation of new practices. Looking at the variety of social innovation labs all over the world a mix of lab approaches is visible. If programmes for social entrepreneurship incubation are combined with public sector innovation processes plus a vivid environment for civil society organisations to work, a whole ecosystem for social innovation can flourish, e.g. on city level. Mixing lab approaches yields stronger outputs for single innovation processes and strengthens SI ecosystems.

Typology of Social Innovation Labs according to mission and/or ownership

> **Although a lab might be owned and financed by one sector the concept and practice of social innovation emphasises multi-sectoral cooperation in the generation of new practices.**

LESSONS LEARNT FROM A GLOBAL OVERVIEW

The existing literature gives important hints to what needs to be taken into account in order to build successful SI labs. Our own empirical research within the project KoSI-Lab including 14 international case studies confirmed many of the success factors and barriers that labs have to go through. The results are presented below in relation to different

'lenses' that can be found in the literature referring to 1) the lab as an organisation, 2) the lab as a process, 3) the lab as a space and 4) the lab as part of an ecosystem:

The lab as an organisation refers to all structural features of the organisation, including ownership, funding, organisational identity and culture, mission statement, motivations for foundation as well as institutional embeddedness in different sectors or as hybrids. The institutional setting in which SI labs are embedded is only a minor focus of lab studies [4]. All types of labs share the notion of developing new forms of working, e.g. the concept of co-working spaces, the concept of cross-sector cooperation and inter-organisational collaboration, the concept of mission and problem orientation or the concept of applying design-centred methods. Depending on the institutional context in which the lab operates, it is probably more or less difficult to establish these new modes of working. Either possible funders and promoters might not be convinced of the merits that a lab process could yield, or colleagues and the wider community of the lab do not share the same ambition as the core lab team.

The lab as a process refers to all procedural aspects of lab facilitation, including the way in which topics and projects are chosen and mandated, how 'wicked' and 'politically contested' these problems might be; which methods are applied, how cross-sector cooperation is to be achieved and what competencies this lab facilitation requires. The purpose of labs is to conduct lab processes as a systemically designed procedure of arranging collaboration between different stakeholders. Each lab has other ways of identifying the problems and challenges to work on, e.g. as mandated by funders, a client, an own programme management or via open public processes. The lab team designs a process more or less tailored to the lab challenge and decides on the methods that are applied. Ideas developed in SI-labs have to anticipate opposition and constraints as well as potential enabling factors in their complex implementation strategies [5]. Most importantly, social innovation labs very often work on societal challenges, which always implies a political dimension. Funding structures (by private donors, public funding etc.) might impose a political bias which might prevent an open solution process. Furthermore, lab participants need careful process facilitation, e.g. with respect to differing values and institutional logics as well as possible hidden agendas. This poses a challenging task on lab facilitators.

The lab as a space refers to 'location' as an important factor for effective lab processes. The literature about design labs, learning labs etc. suggests that processes that are supposed to yield innovation need to enable creative thinking, learning and doing. A well-fitted space might be key to attracting stakeholders and to develop new and innovative projects; though not all SI labs specifically emphasize the importance of their lab offices as being a part of their innovation system. But for some labs the 'functional space' in which lab processes are developed and conducted is very important, because it presents a location with working methods that are not known to a lot of people or at least are seldom experienced in everyday work for most lab participants. Furthermore, the location is often a place which is far from where lab participants usually work. Therefore, generating a 'neutral' space which is new and inspiring at the same time can make an important contribution to effective lab processes. Furthermore, the surrounding infrastructure of 'creative territories' might support collaborative social dynamics and relational patterns by providing 'soft' infrastructures that could facilitate frequent interactions among members of the SI ecosystem.

The lab as part of an ecosystem and different networks refers to activities of the lab beyond the initial support of lab processes. This includes organisational internal learning activities as well as knowledge sharing and helping to spread one's own working methods and ambitions. Most SI labs are engaged in networks of labs for mutual knowledge exchange, e.g. via international conferences. This also might increase their visibility to other lab practitioners and a wider audience, including their local communities. Continuous exchange within a network requires certain resources and capacities, however by sharing knowledge in this way many labs are unable to engage with it. On the other hand, education activities, e.g. by creating academies and learning tutorials for cross-sector leadership, design thinking or social entrepreneurship acceleration seem to be an important element of the work of labs as they like to 'de-routinise' and disrupt prevailing practices of problem-framing and solution-finding.

Briefly summing up, social innovation labs can be characterised as a seedbed for social innovation. Their potential is acknowledged by many actors which explains why the spread of SI labs is still ongoing.

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LIVING LABS FOR SOCIAL INNOVATION

Living Labs are blossoming worldwide through a plethora of cross-sector partnerships between public, private and civil sectors in open and user-driven innovation processes. However, their actual impact in terms of empowerment and social innovation as well as specific contributions to systemic social change remain unaddressed.

Mónica Edwards-Schachter

LIVING LABS: ORGANIZING MULTI-STAKEHOLDER COLLABORATIVE INNOVATION WITHIN INTERTWINED SOCIAL AND TECHNOLOGICAL SYSTEMS

Living Labs (LLs) take part of the worldwide movement involving a plethora of labs, hubs and think tanks with focus on societal needs and the generation of social innovations. Overall, Living Labs represent new models of organizing collaborative innovation processes by involving diverse actors, including users, communities, business, public and civil society sectors. In Europe LLs are seen as instruments to achieve greater citizen participation and social cohesion addressing the declining competitiveness, the reduction of welfare programs, and reforms in the provision of public services. In that sense, LLs are described in terms of the aspired benefit of greater participation by a diversity of stakeholders (communities of practice, users) in tackling current societal challenges [1].

The burgeoning and varied geography of LLs is currently observed at different scale and level of complexity in many sectors, such as digital and emergent technologies, energy, health, creative and cultural industries, agri-food, tourism, among others. LLs can be physical or virtual spaces and in many cases the term labs/hubs is used interchangeably; with many differences in their scope, organizational structures and configurations, size, purpose, type of actors and level of engagement by users and communities [2]. For instance, there are LLs created by top-down initiatives

supported by public funding, such as the Central European Living Lab for Territorial Innovation while Corporate Living Labs are implemented by private capital in Multi-National Companies (MNCs) and large organizations. Living Labs are also implemented by private and public universities aimed to a better integration of sustainability goals and strategies into their organizational structures. Perhaps the most well-known examples are Urban and City Living Labs, which constitute novel forms of collective urban governance and experimentation to address sustainability challenges and opportunities in urban contexts through different types of partnerships [3]. Being such a heterogeneous phenomenon, in the praxis arena it becomes difficult to define what a Living Lab is and why it matters as potential source of social innovation and systemic social change.

LIVING LABS: ORIGIN AND ROOTS OF AN EVOLVING CONCEPT

The origin of LLs is attributed to William J. Mitchell and his colleagues at the Massachusetts Institute of Technology (MIT) with the inauguration of the PlaceLab in 2004, an apartment equipped to observe and experiment with its inhabitants. LL was defined as the application of a user-centric research methodology for sensing, prototyping, validating and refining complex solutions in real-life contexts. This still prevalent approach to LL was also present in other pioneering initiatives in the 1990s in the USA and Europe. It is worth stressing that this model notably differs from other labs such as the Abdul Latif Jameel Poverty Action Lab (J-PAL), also established at the MIT in 2003. This lab was described as a platform to evaluate policy instruments for regional development involving a global network of governments agencies/institutions, donors, foundations, development organizations and research centers [1, 2].

> **In Europe LLs are seen as instruments to achieve greater citizen participation and social cohesion.**

Living Lab types	Other related terms that sometimes refer to LL configurations/structures	
Blue Living Lab	Blue Lab	Policy Innovation Lab
Circular Living Lab	Change Lab	Policy Lab
City Living Lab	Centre for Innovation	Public and Social Innovation Lab (PSI)
Co-creation Living Lab	Circular Lab	Public Lab
Corporate (social) Living Lab	Circular Talent Lab	Sandbox
Design Living Lab	City Lab	Social cluster
Digital Living Lab	Civic Lab	Social hub
e-Living Lab	Co-creation hub	Social Impact hub
Fab Living Lab	Co-creation Lab	Social innovation Lab
Green Living Lab	Co-design Lab	Social Innovation Park
IoT Living Lab	Co-Lab	Social innovation platform
Living innovation platform	Community Lab	Social Lab
Living Laboratory	Corporate Social Innovation Lab	Societal pilot
Living Laboratory for Sustainability	Corporate Social Lab	Social Space for Research & Innovation (SSRI)
Open Innovation Living Lab	Coworking space	Rural Lab
Open Living Lab	Design Lab	Social Science Park
Rural Living Lab	Do-tank	Tech-Lab
Silver Living Lab	Fab-Lab	Transition Lab
Sustainable Living Lab	Governance Lab	Urban Lab
Test-bed	Hackers space	Other
Transition Living Lab	Hive	
University Living Lab	Hub Impact hub	
Urban Living Lab		

Living Labs types within the jungle of "labs & hubs" terminology

In Europe the living lab movement appeared in the 1990s and acquired visibility with the creation of the European Network of Living Labs (ENoLL), founded in November 2006 under the Finnish Presidency of the Council of the European Union. This network comprises about 170 LLs around the world, including federations of LLs like the Brazil Network of Living Labs (BNoLL), the Africa Network of Living Labs (ANoLL) and the China Network of Living Labs (CNoLL) and collaboration with international institutions like the World Bank, the Food and Agricultural Organization (FAO), the Europe Business Network (EBN), among others. ENoLL defines LLs as "user-centred, open innovation ecosystems based on systematic user co-creation approach, integrating research and innovation processes in real life communities and settings. LLs operate as intermediaries among citizens, research organisations, companies, cities and regions for joint value co-creation, rapid prototyping or validation to scale up innovation and businesses" [4].

EVOLVING FORMS AND TYPOLOGIES OF LIVING LABS

Hundreds of case studies enable to observe the evolution and co-existence of three generations of LLs, particularly in terms of different users' participatory roles and scope [5].

In the **first generation** the focus was on the physical structures created in research institutes or organizations with the purpose of developing innovation processes with the participation of customers and users as subjects of experimentation, moving research from in vitro to in vivo settings in simulated or real-life contexts, e.g., testbeds.
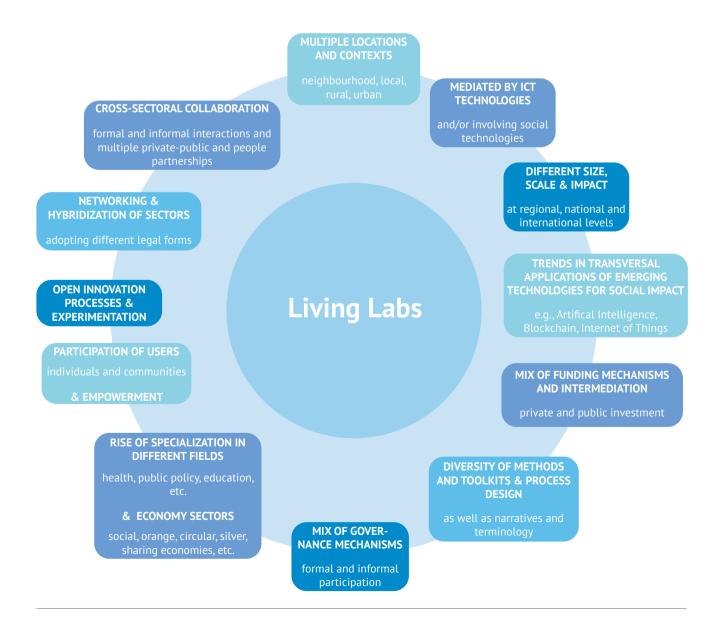
In the **second generation** this model evolved to a physical or virtual structure/platform with a more open conception of users' participation, who actively participate with other agents in the experimentation and co-creation of new solutions, innovating in products, services, business models,

etc. These LLs are characterized by the introduction of new collaborative social practices by cross-sector interactions and partnerships (the so-called fourth helix between firms, academy, government and civil society). Many LLs are adaptations of Research & Development (R&D) living labs placed in research institutes and universities that 'reconverted' their strategies and activities to improve their answer to societal demands. Their distinctive characteristic is the more or less active role of customers and users (individual or communities) as co-creators in the innovation process, from user-centered to user-driven or user-led perspectives. They focus on the diagnosis of needs and test prototypes, in some cases as policy instruments to support and integrate technological and social innovations to improve local or regional development [5].

In the emerging **third generation** LLs constitute 'labs of labs', i.e., LLs as 'innovation ecosystems' with a focus on structuring and organizing networks of innovation stakeholders and their articulation at local, regional, national and international levels. They share resources and organize collaborative networks between their stakeholders, relying on representative governance, participation and open-standards. Implementing a diversity of innovation activities and methods to gather, create, communicate, and deliver new knowledge, validate solutions, these LLs aim to reinforce innovation and the production of broad social impact through the generation of economic, social and/or environmental values.

In sum, LLs have common elements but may have multiple different implementations, there is a certain consensus in recognizing LLs from the broad perspective of 'ecosystem' but also as a specific environment/context, a platform/support structure and a methodology or set of methodologies according to the specific economic sector [1, 2].
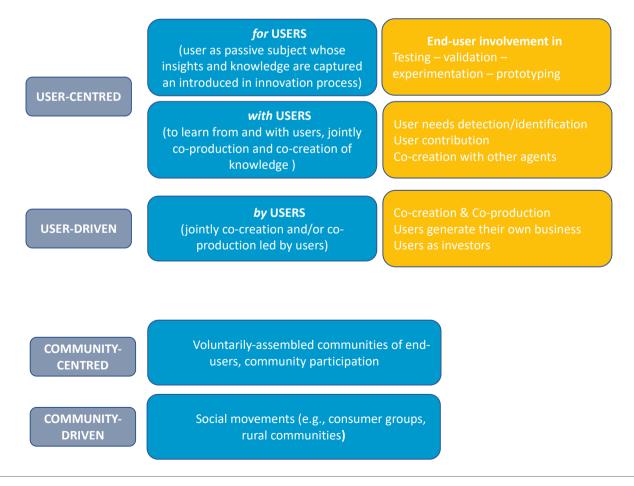

Characteristics of Living Labs, some of them overlapping with other social innovation-oriented labs and hubs

Taking into account the funding and supporting mechanism together with the type of partnerships and objectives, the European Association of Living Labs makes the distinction between research living labs, corporate living labs, organizational living labs, intermediary living labs and time-limited living labs. One recent trend is the creation of Corporate (social) Living Labs by MNCs and large firms or in public entities such as universities as exercise of Corporate Social Innovation. They are generally implemented in similar way to social business units and corporate social incubators and platforms/hubs for social impact, mainly driven by social intrapreneurs and with different level of users' engagement. Additionally, LLs are increasingly linked to incubation and acceleration programs, operating as intermediary platforms among citizens, research organizations, companies, cities and regions for joint value co-creation, rapid prototyping or validation to scale up innovation and businesses.

Overall, Living Labs are characterized by their strong background and orientation to the development of technological products and services addressing societal needs. Some projects developed in the Living Lab context are strongly oriented to the development of technological solutions to a social problem with a low level of user and/or community participation, without changes in social practices or generation of a significant social impact. Moreover, there are many differences with regard to the involvement of users and communities, from playing a passive role to active user co-creation. Thus, the analysis of participatory and empowerment processes 'who' and 'how' and 'to what extent' participate in co-creating knowledge- is crucial in analyzing the generation of social innovations in living labs, which greatly differs if they are user-centered, user-driven or user-led [1, 6].

CONCLUSION

LLs offer a unique research context to study social innovation since they assign a distinct role to citizens as users and co-producers of knowledge in innovation processes. They are built to respond to meet and solve societal needs and take advantage of opportunities for transformative action in order to modify social practices and social structures. Nonetheless, they raise both theoretical and empirical challenges. One crucial aspect is the distillation of LLs profiles for their recognition and roles in social innovation ecosystems. As they come from different sectors and embrace

USER-CENTRED	*for* USERS (user as passive subject whose insights and knowledge are captured an introduced in innovation process)	**End-user involvement in** Testing – validation – experimentation – prototyping
	with USERS (to learn from and with users, jointly co-production and co-creation of knowledge)	User needs detection/identification User contribution Co-creation with other agents
USER-DRIVEN	*by* USERS (jointly co-creation and/or co-production led by users)	Co-creation & Co-production Users generate their own business Users as investors
COMMUNITY-CENTRED	Voluntarily-assembled communities of end-users, community participation	
COMMUNITY-DRIVEN	Social movements (e.g., consumer groups, rural communities)	

Different participatory roles of users and communities in Living Labs

different institutional logics, the 'rules of the game' to collaborate may strongly influence both the agency and structure of collaboration and the specificity of social innovation outcomes. Many aspects are still scarcely investigated, in particular the contribution of LLs in creating disruptive and radical social innovations. But the central aspect that remains unaddressed is empowerment and capability building, since they constitute a requirement to create win-win contexts for collective action and genuine social innovations towards the social transformation to a sustainable society.

LLs offer a unique research context to study social innovation since they assign a distinct role to citizens as users and co-producers of knowledge in innovation processes.

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PROMOTING SOCIAL INNOVATION: THE EXPERIENCE OF THE IDB I-LAB

The Innovation Lab (I-Lab) at the Competitiveness, Technology and Innovation Division of the Inter-American Development Bank (IDB) promotes innovative solutions developed directly with and for excluded communities by providing platforms that connect the final beneficiaries with the world of firms, universities, and NGOs to develop sustainable and effective social innovations.

Carlos Guaipatin

A WORLD OF INVISIBLE PROBLEMS: THE STARTING-POINT OF SOCIAL INNOVATION

Imagine a world where no one can hear your voice – where no one knows the challenges you face or the reality you inhabit. Although there are people who could develop solutions to your problems, they do not know where you are and do not have an understanding of what you need. This world of disconnection describes impoverished small towns and excluded communities, comprised of people unable to communicate their needs because they do not have access to the marketplace and cannot take part in the decision-making that would influence the design of public services in their favor. When we talk about the world of the very poor and the excluded, we often assume that we know what the most relevant problems are; this is a serious mistake. We are talking about groups that cannot reveal their preferences: their problems are invisible to the market, inapprehensible for the government.
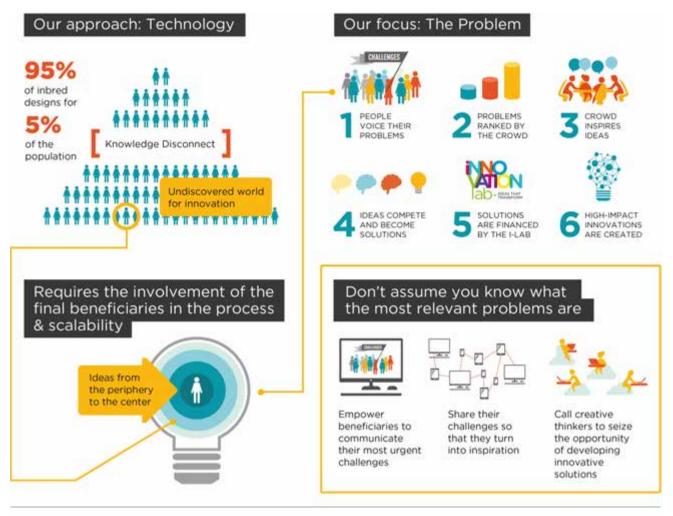
THE I-LAB PURPOSE: CONNECTING THE WORLD OF PROBLEMS WITH THE KNOWLEDGE ECONOMY

At the Innovation Lab (I-Lab), born out of the Division of Competiveness and Innovation (CTI) at the Inter-American Development Bank (IDB), we define social innovation as *"new solutions to the challenges faced by people whose needs are not satisfied by the market, and that have a positive impact on society. They have to be implemented through an inclusive process, involving the beneficiaries (people) in order to define the problem adequately and using public-private-people partnerships to develop the solutions"* [1]. The alignment of these partnerships is crucial, given that governments are unable to tackle all social challenges by themselves and must draw on the capacities of the private sector to scale up and create high social impact. Conversely, the private sector

is in no condition to address social challenges independently, due to the inherent risk or lack of information of the beneficiaries' needs. Consequently, social innovation becomes effective through a concerted collaboration between the public and private sectors, and the final beneficiaries, e.g. excluded communities, both in the identification of the problems, and throughout the innovation process [2].

> **Virtual platforms and social media have the ability to link challenges to solutions, just as they can link people at both ends of the spectrum**

THE I-LAB IS A CONVENER AND TECHNOLOGY IS ITS CONNECTION INSTRUMENT

The I-Lab uses technology to forge connections between the excluded communities and the innovation process, linking the abilities of governments, universities, NGOs, and the private sector to the challenges identified with the final beneficiaries. Since its inception, the I-Lab has transformed into a virtual platform that uses crowdsourcing to foster the exchange of original ideas. In turn, it can identify high-impact solutions to diverse development problems in Latin America and the Caribbean (LAC). Technology can provide the key for every person to add value in an innovation process; it ensures that innovation is demand-driven and meaningful. Virtual platforms and social media have the ability to link challenges to solutions, just as they can link people at both ends of the spectrum. In other words, technology allows us to connect problems with corresponding ideas to resolve them.

The I-Lab methodology: Developing solutions directly with and for excluded communities

THE I-LAB PRINCIPLE: TRANSFORMING PERSONAL ADVERSITIES INTO COLLECTIVE SOLUTIONS

The I-Lab's vision and experience is that introducing innovation into certain social issues – mainly those that affect people at the base of the income pyramid – needs to be tackled with the involvement of the affected group – that is, using a bottom-up instead of a top-down approach [3]. In 2009, the I-Lab launched a *call for problems* for one of the most excluded groups in the world – people with disabilities. Through crowdsourcing via a web 2.0 platform, we disseminated this call for problems at the international level. To ensure that even the most marginalized groups had a voice, we engaged local NGOs, community workers, and churches to capture the input of these excluded communities on the platform. The call for problems lasted six weeks, during which the website received 1.6 million hits, resulting in 49 problems presented from 58 different countries. The crowd then ranked the problems through a voting process on the same platform. The three most-voted problems received 150,000 votes from across the Latin American and Caribbean region and brought to light a wealth of information about the

realities faced by people with disabilities, ranging from the lack of educational resources for deaf and blind children, to the difficulties of mobility in a wheelchair in rural settings. Once we identified the top five problems, we launched a *solutions contest*, which received over 200 project proposals from firms, universities and innovation agencies. A high-level panel of disability experts, technical specialists, and academics selected the best projects, which received funding and technical expertise to develop the solutions to these five top challenges. The majority of these innovations have received important regional and international acknowledgements. The I-Lab's 2009 *call for problems* and *call for solutions* titled "A World of Solutions," laid the foundation for our social innovation work and methodology, starting always with the final beneficiaries and with them identifying and prioritizing the problems to be solved.

THE I-LAB PATH: BRINGING IDEAS FROM THE PERIPHERY TO THE CENTER

Making a market visible means revealing people's needs and facilitating the junction between the world of problems and

the knowledge economy. As such, the methodology we implement is as follows:

Identifying the problem: the I-lab launches a *call for problems* through a virtual platform open to the public, based on a general issue that has been determined as the contest's priority. Depending on the nature of the issue, the process for the identification and prioritization of the problem could also include focus groups, surveys, interviews, and other channels that can give voice to the potential beneficiaries. Based on this problem, people express their most pressing issues, generating awareness of the community's urgencies.

Creating solutions: once the problem is identified, we launch a *call for solutions* through the same platform, encouraging private sector companies, universities, and entrepreneurs across different disciplines to develop or apply solutions to the selected problems, offering know-how and financial support to the winning ideas. This phase focuses on generating ideas, rather than on the business plan necessary for implementation. At this stage, it is important to determine the conditions for Intellectual Property rights.

Selection of solutions: a multidisciplinary panel indicates the most pertinent and innovative solutions through a scoring system, identifying initiatives that create value and address problems in new and creative ways. The solutions usually involve technology and may entail certain inherent risks and uncertainties. We also conduct the process of selecting the solutions through crowdsourcing, using an open public ballot for citizens to prioritize the solutions.

> **The conjunction between the public, private, and academic sectors, and civil society is essential to determine the correct information, provide the most viable solution, and attain the proper funding to scale and create the highest impact.**

Funding and implementation: a non-reimbursable subsidy from the IDB is granted to each of the winning solutions, in addition to development support for the conceptualization and implementation stages.

EMPOWERING VULNERABLE INDIVIDUALS IS THE KEY TO HIGH-IMPACT SOCIAL INNOVATIONS

The experience of the I-Lab has tackled a wide array of social problems, from improving the economic and social opportunities of young people with disabilities in Ecuador to facilitating access to water in low-income communities throughout Colombia. We believe that effective collaboration among people from different backgrounds opens up a world of creative opportunities, but we also know how difficult it is to put this into action. By connecting the world of problems with the world of ideas through the application of technology, we are able to generate social innovations that are sustainable, effective and scalable. The conjunction between the public, private, and academic sectors, and civil society is essential to determine the correct information, provide the most viable solution, and attain the proper funding to scale and create the highest impact. To strengthen this network of collaboration is to strengthen and empower vulnerable individuals.

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BRIDGING THE GAP BETWEEN ACADEMIA AND PRACTICE: SOCIAL INNOVATION THROUGH KNOWLEDGE EXCHANGE

Lack of knowledge is one of the biggest barriers for successful development of social innovations. The approach of SIKE demonstrates the potential of universities to use their knowledge by developing new paradigms and tools for targeted exchange between actors from all societal sectors and shows how universities can learn from other organisations, which have more experience in supporting social innovation.

Mark Majewsky Anderson / Dmitri Domanski / Sabrina Janz

The results of the global mapping (with more than 1,000 cases) of the research project SI-DRIVE (www.si-drive.eu) show that as yet Higher Education Institutions (HEIs) do not engage systematically in the field of social innovation. Universities participated in only 14.9 percent of the reviewed initiatives and in total organisations from the field of research and education were involved in slightly more than 21 percent of social innovations. While SI-DRIVE's findings indicate that cross-sectoral collaborations are of great importance, the marginal involvement of research organisations contrasts with their key role in classical innovation processes and as one of the key actors within the triple helix model. Therefore, the empirical results suggest quite an unbalanced quadruple helix for social innovation.

The importance of HEIs to take over more societal functions besides their tasks as an academic institution (teaching and research) has increased over recent decades. HEIs qualify employees for the public and private sector and play a major role in tackling social and economic challenges. Consequently, HEIs have to adapt their strategies to changing processes in the educational sector taking into account responsibility for the interest of different stakeholders. Social innovation has become a particularly interesting topic in the academic context regarding the third mission and the interconnection between HEIs and society. While the third mission has grown in importance, there is no uniform definition. It could be broadly defined as HEIs' engagement with partners from society and economy [1]. Another definition is to see the third mission as everything that does not belong to traditional teaching and research [2].

For many years, universities have formed an integral part of the so-called knowledge triangle or triple helix model in which innovation is generated through a symbiotic relationship between government, business and universities. Institutions universally recognise that knowledge exchange is an important task for universities in all three missions and in particular in the third mission. However, while social innovation clearly plays an important role in all three missions we rarely see a university where social innovation forms an integral part of all three missions [3].

At the same time, it is clear that new paradigms need to be developed for universities to play a role in driving social change. Traditionally the model has been based on a purely commercial process aimed at protecting the knowledge coming from universities, then licensing or creating spin-off companies. This ignores many of the cultural, social and economic challenges of the different regions and fails to take into account much of the knowledge being produced by the different universities. Although many research projects have sought to address this, there is still an urgent need to create a better understanding of the new processes, skills and tools that are required to exploit the knowledge coming out of universities more effectively and to drive the social innovation agenda. For social innovation to take place, to grow, and flourish, sustainable knowledge exchange practice

> It is clear that new paradigms need to be developed for universities to play a role in driving social change.

needs to adapt and create new tools and processes to help drive it.

THE IMPORTANCE OF A NEW APPROACH FOR KNOWLEDGE EXCHANGE

As the global mapping of the SI-DRIVE project has shown, knowledge gaps represent one of the biggest barriers for successful development of social innovations, especially leading to limited transfer and diffusion. Often, social innovators are lacking capabilities and skills (especially, business and managerial skills, staff training and personnel development skills, networking and communication skills) as well as professional knowledge (e.g., information technology and recruiting staff). In addition, they have difficulties accessing required information and therefore external expert knowledge is needed in some areas [4]. Against this background, social innovators who participated in the survey expressed the need for building up skills and capabilities (upskilling and training, workshops, learning etc.) as well as providing managerial training (e.g., administration procedures, business plan design etc.). They also stressed the necessity of more and better knowledge exchange and connecting with other organisations, collaboration for learning, facilitating knowledge transfer, exchange and learning opportunities, buying in knowledge as well as collaboration with external experts to gain specific expertise [4].

On the other hand, universities generally do not recognise the important role social innovation can play as part of their knowledge exchange policy, and regional ecosystems also tend to favour more commercial and technological forms of innovation. While academia and other sectors with their different strengths could perfectly complement each other in supporting social innovations, there is still a huge gap between them when it comes to cooperation and communication. The SIKE project (Social Innovation through Knowledge Exchange – www.sike-eu.org), a new initiative under the Erasmus+ Knowledge Alliances Programme seeks to demonstrate the potential of universities to use their knowledge by developing new paradigms and tools for targeted exchange between actors from all societal sectors. At the same time, it shows how universities can learn from other organisations with more experience in supporting social innovation. The rationale of SIKE is based on experience of leading universities in the field, especially through two similar projects implemented in universities outside Europe – the Latin American Social Innovation Network (www.lasin-eu.org) and the Southeast Asian Social Innovation Network (www.seasin-eu.org). Both projects focused on developing units at the universities to support social innovation initiatives.

THE SIKE UNITS

SIKE is forging alliances between universities and stakeholders across the social innovation ecosystem including business, local government, civil society organisations and community groups in order to develop a new concept for knowledge exchange, informed by a needs analysis and monitoring of local social innovations. By combining the different experiences from five universities and six non-HEI practitioners (SMEs and NGOs), the SIKE project has developed a blueprint for a 'SIKE Unit' which combines a series of tools and services to support social innovators both within and outside the university. The five HEIs based in five European regions (in the UK, Croatia, Portugal, Spain and Germany) – have then adapted the Unit to their regional context, creating a physical space to bring together different stakeholders in order to support social innovation processes.
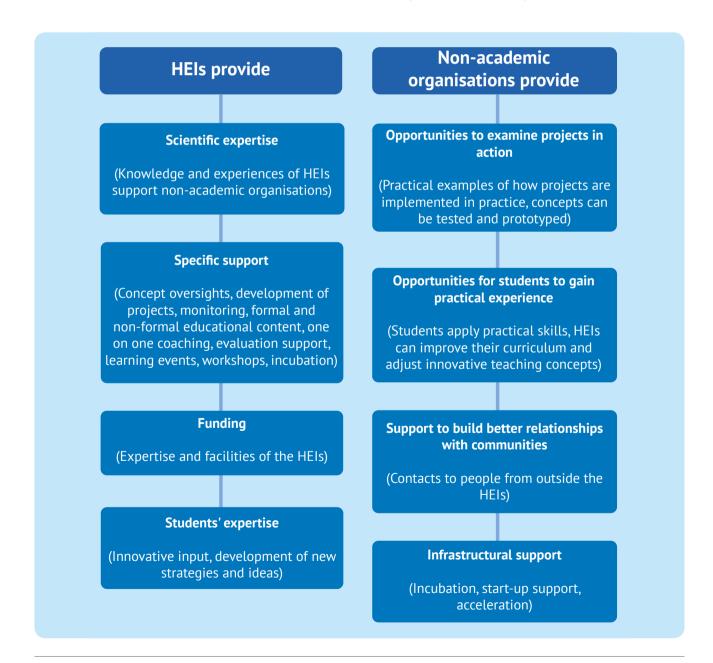

Services offered by SIKE Units

The Units offer training, policy-briefings and online tools as part of a suite of incubation and knowledge exchange services applying specialist research, equipment, outreach programmes and existing business support tailor-made to the needs of social innovators, whether they are students, academics or external stakeholders. By the end of the project a series of strategic recommendations and case studies, as well as online tools and teaching materials, will be produced

to help other HEIs wishing to create similar units for driving social innovation through knowledge exchange.

To successfully support social innovation, it is not enough to rely on traditional methods and processes for knowledge exchange.

SIKE proposes that to successfully support social innovation, it is not enough to rely on traditional methods and processes for knowledge exchange. A university needs to establish a specialised unit that is specifically geared towards the needs of social innovators. The SIKE approach argues that universities should support social innovation in a systematic

way beyond ad hoc initiatives and sporadic activism. A SIKE Unit is the next step towards institutionalisation of social innovation through universities. Moreover, the explicit notion of this form of knowledge exchange clearly places universities as conscious actors within the social innovation ecosystem: they proactively assume the task of facilitating the exchange, flow and co-creation of knowledge.

There are many ways in which SIKE Units can contribute to knowledge exchange within the social innovation ecosystem. They can help to develop socially entrepreneurial mind-sets and transferable skills, creating schemes of transversal skills learning and application in cooperation with social enterprises aimed at strengthening employability, creativity and new professional paths. In addition, SIKE Units open up new learning opportunities through the practical application of

HEIs provide	**Non-academic organisations provide**
Scientific expertise (Knowledge and experiences of HEIs support non-academic organisations)	**Opportunities to examine projects in action** (Practical examples of how projects are implemented in practice, concepts can be tested and prototyped)
Specific support (Concept oversights, development of projects, monitoring, formal and non-formal educational content, one on one coaching, evaluation support, learning events, workshops, incubation)	**Opportunities for students to gain practical experience** (Students apply practical skills, HEIs can improve their curriculum and adjust innovative teaching concepts)
Funding (Expertise and facilities of the HEIs)	**Support to build better relationships with communities** (Contacts to people from outside the HEIs)
Students' expertise (Innovative input, development of new strategies and ideas)	**Infrastructural support** (Incubation, start-up support, acceleration)

Mutual benefits for HEIs and non-academic organisations

socially entrepreneurial skills, which can lead not only to the commercialisation of new services, products and prototypes, but also to the creation of social enterprise start-ups and spin-offs. Furthermore, they can boost innovation within the participating institutions and the broader socioeconomic environment by jointly developing and implementing new multidisciplinary, problem-based continuing educational programmes as well as jointly developing solutions for challenging issues and developing social innovation practice. It is important to underline that the universities' social innovation support should not be limited to areas of social science. Specialisms in engineering, health or even pure sciences have a role to play in supporting social innovators.

SIKE's approach not only sees HEIs in their role as facilitators, moderators or brokers within the ecosystem, but also as social innovators themselves. An important function of the SIKE Units is to develop (or to participate in the development of) social innovations. Against this background, SIKE directly involves – along with HEIs – non-academic actors as project partners in each one of the regions where it is operating. Usually, universities are not the most experienced social innovators. There are many organisations in other societal sectors with a longer tradition of developing social innovations. SIKE is aimed at creating opportunities for universities to learn from practitioners, such as SMEs, NGOs or social enterprises. Hence, while the idea of the entrepreneurial university is not new, the concept of HEIs as social innovators is still largely unexplored.

For the purpose of learning from existing social innovation initiatives, every partner region in the SIKE project has mapped ten cases in their area located in the field of social innovation and social entrepreneurship. Two of those are cooperating with the SIKE Unit during the time of the project (2018-2020). By offering specific workshops where the SIKE partners function as facilitators to connect important stakeholders, the initiatives receive support to further develop their potential. Through the analysis of the mapped initiatives, it can be demonstrated that both HEIs as well as non-academic organisations benefit from collaboration with each other. In order to examine those benefits specifically, the contribution of HEIs as well as the input of non-academic organisations can be illustrated in the information graphic.

By cooperation and knowledge exchange, HEIs and non-academic organisations are gaining several mutual benefits. During the SIKE project, more opportunities are being emphasised in order to identify specific methods for knowledge exchange to support social innovation.

CONCLUSIONS AND OUTLOOK

SIKE is a promising approach towards systematic institutional-isation of knowledge transfer both within HEIs as well as between HEIs and non-academic actors in the field of social innovation. The necessity of explicit network building for knowledge exchange is apparent in order to complement social innovation along all three missions of universities and to generate mutual benefits for all actors involved.

Previous projects, such as LASIN and SEASIN have already shown the importance of a knowledge exchange strategy for HEIs in other world regions. However, there are several major challenges for universities. First, continuation of SIKE Units beyond the project's lifetime is not automatically guaranteed. While the project offers an important basis for setting up such a unit making even more than a pilot out of it, the whole initiative can only use its potential if it becomes part of the university's long-term strategy. Second, replicating SIKE Units can turn into a difficult task. Although, there are always similarities in how HEIs engage in the area of social innovation, each university has its own specifics and each region has another reality. It is crucial to understand that in order to establish a SIKE Unit there can be a basic concept as described above, but not a recipe for a successful implementation. Each HEI needs to find out what its strengths and opportunities are. While some universities can be strong in incubation, others might be better in community involvement. Furthermore, the ways of achieving an established SIKE Unit at a university can differ largely. In some cases, it can immediately become a centralised structure, in others it may come from a faculty or an institute. Finally, SIKE Units will only be successful if they manage to involve practitioners in the way the latter also benefit from such collaborations. In other words, HEIs cannot expect practitioners just to deliver knowledge and to share experience or infrastructure. The purpose of a SIKE Unit is not just to meet the university's strategic goals. Much more than that, it is to support the ecosystem and, hence, to contribute to societal development.

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SOCIAL INNOVATION ROUTE: A METHOD TO INNOVATE WITH THE TERRITORIES

The Social Innovation Route is a method that allows tackling problems from the perspective of social innovation. It establishes a cooperation with territories to manage systemic changes that transform adverse situations into sustainable innovations with the potential for consolidation and transfer to other regions.

Leonor Avella Bernal

INTRODUCTION

This article presents the conceptual approach of the Social Innovation Route (the Route) as an applied method for generating social innovations. It was developed by the Social Innovation Science Park (PCIS). PCIS is a unit of Corporacion Universitaria Minuto de Dios (UNIMINUTO) University that articulates research with territories to solve problems with a focus on sustainable development through social innovation.

The Route is a product of intentional praxis of PCIS with the territories of Colombia. It is taking a social innovation perspective to address challenges that transform adverse situations into innovations that can be consolidated and transferred to other regions. The method gathers PCIS learnings of more than seven years of implementing a social innovation strategy with concrete territories as the result of joint work between researchers and social actors. It consolidates a commitment to social innovation based on tacit and scientific knowledge in which: 1) The process focuses on the needs of territories, seeking their transformation and fostering sustainable development over time. 2) The articulation between formal and tacit knowledge is a systemic process in that proposed solutions respond to the criteria of participation, efficiency, scalability, and sustainability so that they may generate permanent changes over time. 3) The principle that social innovation goes beyond creative or pilot actions, and should facilitate the application, transfer, and appropriation of both knowledge and social technologies. [1]

HOW WE ARRIVED AT THIS METHOD

The PCIS is a specialized platform that operates under the principle of social appropriation of knowledge. It connects actors and resources of the Science Technology and Innovation System (STI) with vulnerable territories to boost the co-creation of solutions to social problems, which the actors realize in projects, ventures, integrative alliances, among others.
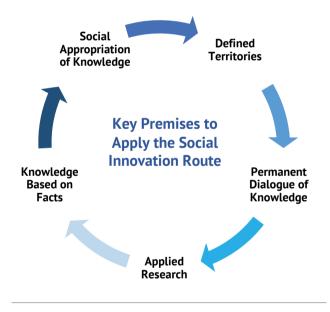
During the years of work with the territories, various forms of social innovation management have been explored, reaching from conventional strategies and tools to those less conventional and more communitarian. The knowledge and learning acquired in the interaction between formal knowledge (researchers) and tacit knowledge (territory), has made it possible to visualize the method. Since the projects developed in this framework feature an intentional process of managing knowledge and its appropriation, there are papers, reflection articles, booklets, reports, project results, and others, that form the basis for thinking the Route.

The Route arose from intentional and praxeological reflection that characterizes working in UNIMINUTO. In this sense, praxis becomes a central element in the process of 'seeing', 'judging', 'acting' and 'creative devolution', which generates new ways of understanding social innovation, which constitutes our method of application. It has been conceived and developed as a method to connect territories, researchers, companies and the state with needs and opportunities that have the potential to produce novel solutions that generate high social impact and transform development paradigms based on the active participation of actors that intervene in structuring solutions. The process of consolidating the Route and its components, implied an

exercise of permanent observation in the application of techniques and tools for social innovation ('see'). To make self-reflection and analysis of lived praxis understandable, a discourse of social innovation needs to be defined and formalized ('judge'). Furthermore, the development of practical pilots to validate and consolidate both the discourse and the operability of social innovation in the territory ('act') formalize knowledge in a way that can be appropriate for the actors of social innovation systems ('creative devolution') [2].

INTRODUCTION TO THE METHOD

Understanding the method can be realized by taking the perspective of Bunge [3]: thinking about the social innovation route does not mean just to think of it as a recipe to innovate in the territories. On the contrary, it presents a dynamic structure that allows acting in a structured way in a real-life setting, making use of instruments and techniques appropriate to the problem or need, to create new solutions that are sustainable over time.

Key premises to apply the Social Innovation Route

The Social Innovation Route is a system of components that articulate formal knowledge with tacit knowledge, making use of techniques and structured tools to identify, understand, analyze and co-create solutions, consolidating them in social technologies and transferring them to other contexts. The application develops under five premises: **1)** The process takes place in specific territories. **2)** The process responds to
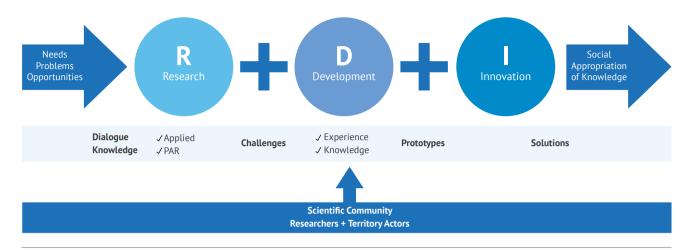
> **The Social Innovation Route is a system of components that articulate formal knowledge with tacit knowledge.**

a permanent dialogue between the researcher and the actors of the territory. **3)** The process makes use of techniques and tools of applied research to solve the challenges raised by social contexts. **4)** The process generates and uses knowledge based on real events. **5)** The social appropriation of knowledge is a transversal axis to the whole process.

Under these conditions, the Route fits within what is known as factual or empirical science that is applied in real contexts where facts and processes have different interpretations that respond to the lens used to see reality. In this context, the researcher has a view from his position of formal knowledge, while the territory and its actors have a perspective influenced by experiences from praxis; these two perspectives as part of an intentional process enable the generation of social innovations. In other words, the Route as a method mainly focusses its attention to the needs, problems and opportunities of and with the territories to change deliberately; territories and researchers jointly establish a scientific body that analyzes, proposes and implements solutions as a mechanism to solve structural problems and transform the state of science.

CHARACTERISTICS OF THE METHOD

During the process of consolidating the Route, the research team has identified four specific aspects of knowledge, which form the basis of the method:

1. *Observe the facts to transform them.* During the process of innovation, the design team places needs, problems and opportunities in the center of the observation process. This approach allows the team to establish real relationships between these elements also referred to as facts, and to understand, analyze and find new ways of interpretation and application. "Not the facts by themselves but their theoretical elaboration and a comparison of the consequences of the theories with the observation data are the main sources of discovery" [3]. The facts go through a conceptual understanding of them to define categories and their interrelations of analysis; knowing the facts and the associated factors also allows to consolidate relevant data, generate inferences, access findings and project solutions.

2. *Establish analytical relationships.* "Science is much more than organized common sense, [...] it constitutes a rebellion against vagueness and superficiality" [3]. Translated to the Route, this sentence means that researchers and territories confront situations in a systemic way, to explain the facts integrally and to decompose their elements. From an objective perspective, it requires both the practical understanding of the problems and needs and the theoretical and technological understanding that may exist. The greater the depth of these different types of understanding, the greater the scope of the proposed innovation.

Research, Development and Innovation in the Social Innovation Route of Parque Científico de Innovación Social
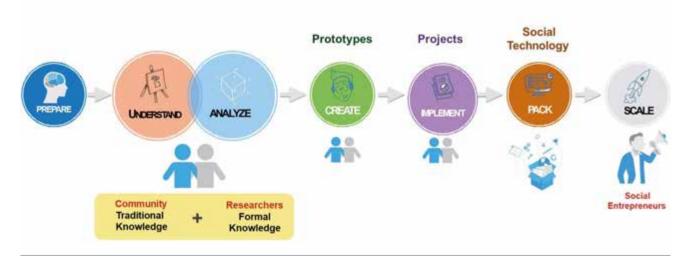
3. *Act with clarity and precision.* The process of social innovation cannot be left to inaccuracy, as it is part of an organized method. Thus, problems and needs have to be translated into real and clear challenges to be effectively addressed in a permanent Research, Development and Innovation (R+D+I) exercise, where the territory appropriates knowledge and generates solutions that can be transferred to other territories.

4. *Seek to consolidate innovations in social technologies.* Since the innovation process is open and participatory between territories and researchers, its purpose is to structure social technologies that are socially appropriate to generate an impact on local and global development. Social technologies are the result of the Research and Development (R&D) process immersed in the social innovation context, which consolidates a systematic exercise of producing knowledge-action and a verification of results. [4]

THE ROUTE

The application of the Route is carried out through seven stages that interact systemically and in an articulated way to give meaning and life to the conception of the method. It is here in the direct implementation, where each of the exposed aspects becomes visible [5].

Enlist. This stage focuses on defining the problem and determining how much time and resources are needed to find a solution. This involves getting together with the people involved and agree on the fundamental, connecting information, data and figures that allow an initial understanding of the problem, need or opportunity which shall lead to an innovation.

Understand. This involves a step of structuring the complexity of a problematic situation. It starts from understanding the higher number of variables and connections identified in conjunction with the actors involved, through the dialogue

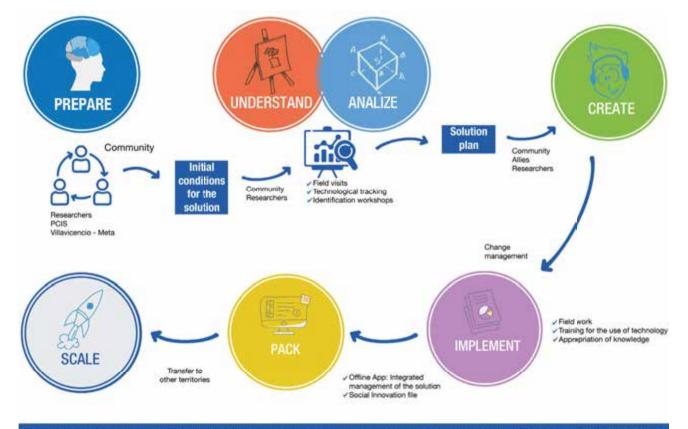Social Innovation Route of the Parque Científico de Innovación Social

of knowledge. It is required to organize the traditional or empirical knowledge of the problem and the solutions that are considered desirable. For this to be possible, it is essential to develop this stage based on the paradigm of Participatory Action Research [6], regarding communities not as objects of study, but on the contrary as active subjects of the process.

Analyze. To carry out an orderly process of interpretation of reality, it is essential to articulate traditional knowledge (from communities) and formal knowledge (from researchers). These activities achieve a deep and systemic understanding of the situation analyzed, including a macro mission based on the trends, and a micro vision based on the narratives of people; here it is essential to know about other possible solutions to the problem, potentially integrating them in the proposed solution.

Create. This stage corresponds to the ideation and co-creation process of the new solution, making use of the resources available to the community in order to arrive at prototypes that constitute a tangible, possible novel and viable solution; at this point, metrics are also established to validate the hypotheses that the design team is constructing for their proposal.

Implement. In this phase, the proposed solution is applied, which requires the planning, management, and monitoring of results, in projects where solution pilots are carried out. In this phase, the use of metrics is critically important, as well as the documentation of results and acquired learnings.

Package. This stage requires ordering all the knowledge generated and appropriate to make it visible. In a next step, it is transferred into what is called 'social technologies'. This is done to formalize the action model into instruments, methods, and mechanisms for the application of the solution, preferably technologies and artifacts that facilitate an adaption of the solution in other contexts.

Scale. The last stage pretends that the solution is established and collectively appropriate in the territory, and also can be transferred and adapted in other contexts or lead to the deployment of organizational models, action guidelines, and development policies.

Application of the Route in Mapiripan by Social Innovation Science Park team

APPLICATION OF THE ROUTE IN MAPIRIPAN, COLOMBIA

The following is an example of how the route has been applied together with a rural community. This example is a 'Subject of Collective Repair (SRC)' in the Colombian Law. The name of the initiative in focus of the application translates to: 'Inspection, the Cooperative'. It is located at the municipality of Mapiripan, Department of Meta, in Colombia.

In this case, the preparation phase implied to establish a dialog with Colciencias (Administrative Department of Science, Technology and Innovation) and community leaders to understand the problem. The problem was identified and an alliance with Colombia Siemens Foundation and Poligrow Foundation was established with whom the initial conditions to provide a solution to the challenge were jointly defined.

To understand the problem a technological tracking was done. Furthermore, field visits to identify the factors influencing the problem and workshops for analyzing the problems together with leaders, allies and researchers were made. Based on the obtained results, four committees that jointly analyzed, managed and defined the solution plan were established.

The creation of the solution was the result of five proposals defined in the solution plan: 1) community resilience implied a natural corridor of reforestation and care of native species that are connected to the life stories of settlers in the respective area, 2) water purification, 3) care, recovery and maintenance of water sources, 4) incorporation of approved technologies in other solutions, 5) the technical and scientific support of allies and researchers.

During the implementation, researchers and allies had a fieldwork phase together with stakeholders from the territory to implement the solution, transfer and appropriate the knowledge. This allowed to create conditions where the solution could be managed by different actors of the territory: children, young people, and adults.

The final packaging of the achieved solution was carried out as an offline app by which each member of the community was able to manage the solution. Furthermore, a Social Innovation file is also being prepared in which the process is presented.

CLOSING REMARKS

The Route is a method that offers guidance to manage social innovation rather than finished and infallible recipes to magically create innovations. It has been designed based on experiences in the development of projects with the territories, articulating scientific knowledge with tacit knowledge. The Route recognizes collective capacities and traditional knowledge as sources of new knowledge as a basis for defining problems and to find appropriate solutions to each context. The method comprises the social appropriation of knowledge as an intentional process in which knowledge arises and is transformed from the territories, hence from collective knowledge, accompanied

> **The Route is a method that offers guidance to manage social innovation rather than finished and infallible recipes to magically create innovations.**

by formal knowledge. This combination is generating learnings and new practices that produce social innovations. The Route is committed to 'community liaison' as a strategy to boost the participation of territories in the management of social innovation, empowering communities to identify and implement solutions to their problems or needs. Furthermore, it offers researchers and managers of social innovation a space for interaction to generate and apply knowledge adaptable to the needs of the territories. Hence, researchers approach the territories to listen, understand, analyze, co-create and implement joint solutions [1]. The Social Innovation Route is an orderly tool to manage social innovation that brings about disruptive changes for local and regional development.

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HARNESSING AND REALIZING SOCIAL INNOVATION FOR RTOS – A SOCIAL FORESIGHT LAB APPROACH

Social and technological innovations are intertwined. This affects innovation processes. Following an understanding of social innovation as innovation's social dimension, this paper proposes a social foresight lab as a means for research and technology organizations (RTOs) to harness and realize the potential of social innovation.

Fabian Schroth / Martina Schraudner

INTRODUCTION

Traditional processes of research, development and innovation open up towards new stakeholders, as concepts like Quadruple Helix [1] highlight. This is due to an increase in interdependencies between social and technological innovation. Thus, innovation processes rely on the dynamic and flexible interaction of multi-actors and diverse elements, rather than on a number of synchronised, stable process steps. While research and technology organizations (RTOs) are central players for traditional innovation processes, they need to reorient themselves strategically in these changing innovation systems.

Over the last decade, the research community has started to connect the discourse on social innovation to the discourse on technological innovation. Following a sociological understanding, social innovations are defined as new practices meeting social needs in a new, more efficient or effective way than existing ones [2]. There is a strong interdependency between said social and technological innovations [3]. For technologies to become adopted and realize their full potential, social needs and behaviours are often more important than merely economic, political or technological aspects. Likewise, technological innovation is essential for giving people the tools to shape and transform societies as they dramatically increase their knowledge, capacities and reach. What is more, social development is critically important for technological innovation by providing for social acceptance thus ensuring that new technologies are actually being used. Consequently, we understand social innovation as one dimension of innovation, namely its social dimension. Doing so allows us to connect social and

technological innovation and make the concept of social innovation useful for RTOs as it reveals new aspects of innovation such as human-machine interaction, new labor requirements, ethics and legal regulations as well as the societal challenges addressed by an innovation. Yet, this approach differs from understandings of social innovation commonly used such as the aforementioned definition of Howaldt and Schwarz [1].

> **For technologies to become adopted and realize their full potential, social needs and behaviours are often more important than merely economic, political or technological aspects.**

Taking this understanding of social innovation as a starting point, this paper asks how RTOs can take the social dimension of innovations into account, which consequences this bears with view to their R&D, and what benefits it provides to them.

NEW APPROACHES FOR ALIGNING SOCIAL AND TECHNOLOGICAL INNOVATION

A first step for RTOs to take the social dimension of innovation into account is to consider innovation systems as Quadruple Helix Systems. Describing innovation systems as a quadruple helix, acknowledges that innovations result from the interaction of actors from academic research,

business, government, and civil society. So far, RTOs are well-positioned within a triple helix, cultivating close connections to industry and government alike. There are established formats for interaction among the academic, business, and policy sector. These formats range from joint research projects to political hearings and expert advisory groups. Yet, such Triple Helix Models fail to integrate users or civil society actors as a fourth relevant sector. Their perspective and practice, however, is just as relevant for innovations to emerge and eventually succeed as that of other sectors. Thus, conceptualizing innovation systems as Quadruple Helix Systems enables RTOs to consider their missing link to civil society.
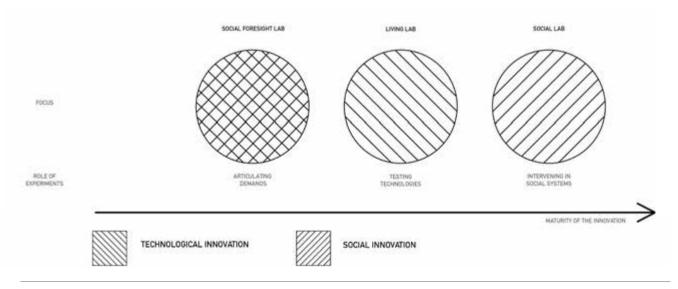
What is missing though is an established format or interaction process between RTOs and civil society actors. There is a strong need for an approach capable of taking the interconnectedness of an innovation's social and technological dimension into account, ultimately aiming to align the social and technological dimension along the innovation process. This approach faces two requirements: first, it needs to integrate the perspective of the missing fourth sector, civil society, into innovation activities; second, it needs to take emerging realities into account [4].

A prominent approach towards meeting these requirements are laboratories in real-world contexts (LRW). Different concepts of LRWs exist, called living lab, social lab, and real world laboratory to name but a few. What these approaches have in common is their commitment to involving multi-stakeholder in innovation processes by experimenting in a real-life setting, aiming to facilitate mutual learning among these different actors. There are, however, three central differences (see diagram) regarding the stage of the technological maturity at which the labs are employed; the role experiments play in the labs; and their focus on technological or social innovation.

Living labs focus on technology development. People are involved in R&D processes as users of a technology. Real-life experiments are deployed as a method for testing technologies in real life and taking people's daily interaction with said technology into account. Such a concept is technology-driven and understands social innovation as a response to technological innovation. Social labs, on the other hand, focus on societal change. Multiple stakeholders are involved in the process as those who may implement change. Real-life experiments are proposed as a method for intervening in social systems and taking the emerging realities of these systems into account [4]. This concept focuses solely on social innovation, using technology as a tool and instrument to advance societal change. The interconnectedness of social and technological innovation is only marginally considered.
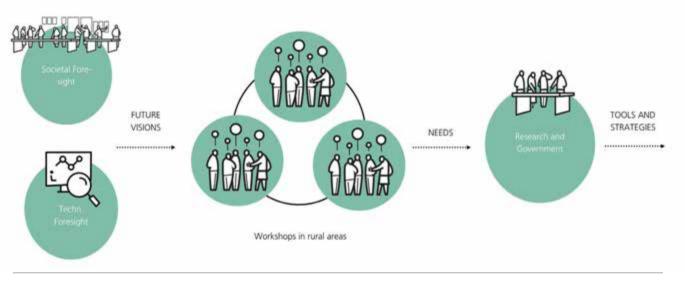
To align both the technological as well as the social dimension of innovation and integrate social innovation into R&D&I processes, we propose a lab integrating elements from both concepts. Such a social foresight lab may be employed at an early stage in the technology development process. Taking future technologies as well as societal needs as starting points, it aligns both developments. In such labs, experiments are predominantly used for enabling stakeholders to articulate their demands.

THE SOCIAL FORESIGHT LAB

We define a social foresight lab as a space allowing all stakeholders from the innovation system to interact, to learn and to experiment with future solutions. Its aim is to integrate social innovation into R&D&I processes. To this end, it takes societal needs as well as societal consequences of technologies into account and initiates networks and activities. Stakeholders are involved in the process to articulate societal needs and act as change agents.

Three types of laboratories in real-world contexts (LWR)

The Social Foresight Lab

In a research project called "Expanding Horizons" funded by the German Federal Ministry of Education and Science (BMBF), Fraunhofer CeRRI developed such a social foresight lab. The overall aim of the project was to improve knowledge and technology transfer in rural areas. To this end, the project proceeded over three stages. First, social needs were identified by means of both desk research and – more importantly – a workshop with societal actors. In collaboration with technology experts, observations gathered were then refined and translated into future visions, which in turn formed the basis for the second stage of the process. The second stage consisted of three participative workshops as part of which representatives of rural areas were given the means to articulate their needs with respect to future innovations and developments. These were then integrated into research and funding practice and policy during the third and final stage. To this end, said needs were discussed with both technology experts from the academic sector and representatives of research funding bodies. Thus, at its core, the process established an iterative approach taking social and technological dimension of innovation into account by means of involving multiple stakeholders.

During the second phase, the project team conducted real-world experiments in three rural areas. In total, 69 participants encountered speculative prototypes of future technologies on a walking tour through their hometown. These objects were installed in real-world settings, such as retirement homes or town halls. They visualized possible social and technological developments, e.g. in the field of future mobility solutions, working or living. Confronted with, for instance, a future mobility station, participants articulated their individual preferences with regard to autonomous vehicles and sharing activities. The project team observed participants' interaction with the objects and discussed those in various focus group settings within the real-world environment. The real-world experiments allowed identifying needs for technology transfer, forming concrete ideas for rural development as well as new and enlarged local networks. Furthermore, they enabled mutual learning among the diverse stakeholders present at the experiments.

Besides these experiments, the social foresight lab established a network of future-oriented regions. In this network, practitioners meet two to three times per year to discuss current developments, present good practices, formulate common positions and develop ideas for future research and development. It is a platform for mutual learning and science-practitioner transfer. As a result, the project identified six areas of action marking entrance points to develop the innovative potential of regions. These areas encompass diversity, economic prosperity, interconnectedness, image, future orientation and identity. All of these areas call for both social as well as technological innovation. For example, interconnectedness requires platforms and infrastructure solutions enabling actors in rural areas to connect with each other. However, it also requires actors to be willing to cooperate and adapt a new mindset as well as forums and methods enabling them to cooperate.

HARNESSING AND REALIZING SOCIAL INNOVATIONS THROUGH SOCIAL FORESIGHT LABS

The overall goal of technology transfer in rural areas is to support rural development, a process in need of both technological and social innovation. This interconnectedness was the rationale to set up a Social Lab in the first place. The overarching goal was translated into two objectives: first, harnessing social innovation for technology transfer by integrating societal needs of rural areas into innovation processes and exploring areas of usage for future technology; second, realizing social innovation by contributing to rural development. Achieving both objectives required us to adapt labs discussed in literature.

The presented social foresight lab starts from societal challenges. However, we did not only initiate projects and set up platforms to enable mutual learning among societal actors. Rather, we empowered civil society actors themselves to articulate needs for future technological innovations. We defined the problems an innovation was supposed to solve and the goal for research and development in a participatory process. A major challenge frequently plaguing public participation in innovation processes is known as the Collingridge dilemma: While the full functionality and impact of a given technology cannot be easily predicted until it is sufficiently developed and widely used, it is difficult to make any substantial changes to said technology at this point in time [5]. To address this challenge, the focus of our experiment was not to test an already existing technology and thus close down a development process. Instead, confronted with speculative futures, civil society actors were empowered to articulate their needs for future innovations. Thus, experiments in the social foresight lab open up discussions and R&D processes.

The future orientation of the lab is the central adjustment to existing lab approaches. This adjustment enables a participatory, needs-driven problem definition and provides a fruitful approach for initiating social innovation. Such lab enables RTOs to align their technology development activities with social innovation in the following ways:

First, the lab harnesses social innovation for improving technology transfer by integrating user's perspectives into R&D processes at a very early stage and observing speculative futures in real-life social contexts. Second, it realizes social innovation as it creates new networks among practitioners, addresses societal challenges explicitly, creates new meanings and collective understandings and provides new ideas for practitioners.

CONCLUSION AND OUTLOOK

Research on social innovation proliferates due to an increasing interest of government and society. It has evolved from an opportunity to a necessity. It has become the next frontier of innovation and the public demands for research and development to be oriented towards societal needs.

Large research and technology organizations like the German Fraunhofer Society have already adopted this orientation. However, it is still unclear how RTOs position themselves towards social innovation.

In this paper, we propose a definition of social innovation as the social dimension of innovation and argue that such understanding of social innovation requires new approaches and methods. We propose the social foresight lab as an approach which may be used by RTOs to harness and realize social innovations. Such approach enables the integration of societal needs into R&D processes, and enables RTOs to realize social innovation by setting up real-life experiments. It challenges existing technology-oriented research processes and enables RTOs to align their R&D processes, in particular their technology transfer activities, with social innovations.

The suggested understanding of social innovation and the proposed social foresight lab approach has the potential for RTOs to establish themselves as 'interaction enabler'. Doing so would allow them to actively participate in the transformation of innovation systems towards Quadruple Helix Systems. Furthermore, taking social innovation seriously enables RTOs to open up new business fields in at least three ways:

• First, RTOs may harness social innovation to improve their technology transfer.
• Second, by realizing social innovation, RTOs may position themselves as key actors in addressing societal challenges. For example, they may become active in regional development activities. With their technological expertise, RTOs offer a unique perspective in this area.
• Third, RTOs can integrate social innovation into technology foresight activities.

The social foresight lab approach is a complex, time- and resource consuming approach. Hence, relying on this approach for every technology development would be overly complex. Instead, the approach can be used to define overall societal challenges and goals of technology development and transfer. Thus, it can serve as a tool for strategy development.

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TEN YEARS OF RESEARCH AND INNOVATION FOR SOCIAL INCLUSION IN THE URUGUAYAN PUBLIC UNIVERSITY: POLICY LESSONS LEARNED

Various approaches seek to promote responses to the link between innovation and social inclusion. At the public university in Uruguay, the Research and Innovation for Social Inclusion Program has been encouraging for a decade the direct link between research capacities and demands for social inclusion.

Judith Sutz / Cecilia Tomassini / Camila Zeballos / María Goñi / Matías Rodales

THE NEED OF A BRIDGE

The social trickle-down effect of economic growth and the idea that good science, whatever its direction, is followed by improved well-being are misleading, even if widely believed assertions. Social inclusion is not achieved by the mere fact that we know more and we are able to produce novelty. This is why there is a need to link directly research and innovation to social inclusion, providing incentives to this directionality as well as facilitating it by identifying problems to be analyzed and solved. This implies broadening the focus of Science, Technology and Innovation (STI) policies by incorporating mandates coming from social dimensions, implying new challenges, especially for translating objectives into instruments and promoting interactions with actors usually not considered by such policies [1].

Aiming at bridging the gap between STI results and social inclusion, the *Universidad de la República* in Uruguay implemented a strategy to link social problems with university research capabilities in dialogue with social policies. This strategy resulted in a competitive fund for research projects called Research and Innovation for Social Inclusion, designed and managed by the Academic Unit of the University Research Council. The program has a specific goal: contributing to the solution of problems hampering the social inclusion of some groups of the population by constructing missing knowledge coming from all areas. It has as well a more general purpose: to convene 'knowledge solidarity' by stimulating the re-direction of research agendas towards social goals.

> **The program has a specific goal: contributing to the solution of problems hampering social inclusion by constructing missing knowledge coming from all areas.**
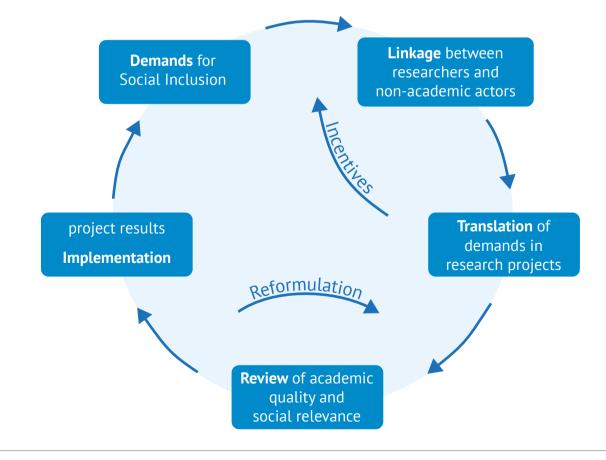
BUILDING THE BRIDGE

Addressing the resolution of social problems through the generation of knowledge and innovations is one of the most important objectives of the program. However, this process of 'addressing' is not simple, since it is influenced by multiple power relations and depends, to a certain extent, on economic, institutional, cultural and political factors [2]. The basic assumption made is that the process of building bridges between demands to solve problems of social inclusion, knowledge production, and other processes up to the potential implementation of solutions requires support and orientation in several stages. To this end, specific incentives were deployed to connect actors and stimulate their involvement in order to solve relevant problems. Within the program, each project is going through five stages:

1. **Demand:** The issue of demand is far from trivial. First, we have complexity associated with the diversity of demands involving social inclusion problems that derive from multidimensional phenomena and are not limited to income poverty. Second comes complexity associated with identifying the involved actors and their demands. For a social problem to meet with the knowledge that could help to solve it, the first precondition is that the

problem becomes visible as a demand. For making this travel – from recognizing a necessity to understanding it as a problem and then transforming it into a visible demand – certain agency is required. Many times the individuals who are affected by a problem do not have the tools to translate a necessity into a problem and make it visible. Their level of organization and internal cohesion is key for that aim and when the latter is weak, specific strategies need to be devised to make visible what is hidden.

2. **Linkages:** Research devoted to solve social problems needs to treat people as agents and not as patients, as Amartya Sen [3] put it, implying multiple dialogues with diverse stakeholders. The projects in the program are thus required to establish linkages with non-academic counterparts in the different instances of their development, involving those directly affected by the problem or intermediaries. The main strategy here is to ask for a narrative coming from the counterparts containing the rationale for their support to the project, the description of the problem and its importance in their own words and their willingness to collaborate with researchers all along.

3. **Translation:** After complying with the requirements of identifying a demand and fostering linkages, the program faces the challenge of translating demands into research problems. Acknowledging the complexity of this process and its highly localized nature, the program introduced – compared with more traditional research programs – some flexibility in its structure, enabling the funding of a preliminary stage. That is a stage of collecting social demands and their translation into research problems. The result of this stage is the elaboration of a full-fledged research project to be submitted to the call.

4. **Evaluation:** The projects are evaluated positively when their academic quality is considered as high and their social relevance, that is, their capacity to help improving conditions of social inclusion, is considered as high too. Unlike other Research Council's programs, where the evaluation committees are integrated exclusively by academics, in this case experts from policy or social organizations can be included as well. In addition, qualitative interviews are conducted with the counterparts to assess the extent of their involvement with the projects. With the aim of not losing good ideas due to weaknesses in the presentation, an instance of reformulation is enabled to make adjustments. In focus of this step are: refinement of the problem description, interdisciplinarity of the research team when needed, and reinforcement of the links with the counterparts.

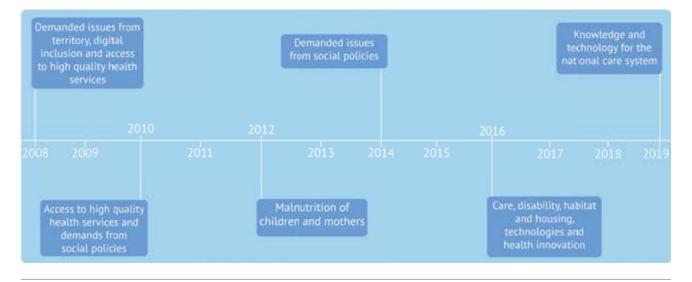Design of the research and innovation for social inclusion program

5. Implementation: A strong emphasis of the program is that the projects must integrate their results for the solution of the social problem addressed by the research. This implies identifying those able and willing to implement solutions derived from the research results. The more direct the link between problem-definers and result-users, the easier the implementation, typically when a medical doctor plays both roles. This is a particularly critical point: the commitment of the actors implementing the solutions is key to achieve successful results.

In the following, we will use one of the projects funded by the program to exemplify each of the stages: the *DalaVuelta* (Spanish for: 'turns around') project seeks to improve access to technical aids that allow mobility, inside and outside their home, of people with motor disabilities. For the first stage, (i) the identification of *social inclusion demands* came from a survey collecting users' needs as well as public social policy demands developed by the group of engineers and specialists in mobility working in the project. The collected information allowed the researchers to map the needs of users and stakeholders. Furthermore, it helped to understand what kind of technical and cognitive capabilities would be helpful. (ii) The *link between* non-academic actors and researchers was reinforced from this process of identifying demands. This process was partially financed by the program as a stage prior to a presentation of the entire project. The counterparts came from civil society, such as APRI (in English: Pro Invalid Recovery Association) and from public health care centers. (iii) The *translation of social demands* to research problems was carried out by a multidisciplinary

team of researchers (Engineers, Designers, Physiotherapists and Social Scientists) in dialogue with non-academic counterparts. The project sought to develop three low-cost prototypes to expand access to (1) a transfer table (allows the individual to move from one seat to another of similar height without the need to stand-up), to (2) electric coupling for wheelchairs (enabling a wheelchair user to travel greater distances than usual in an autonomous way) and (3) a chair lift (allows an individual using a wheelchair to transfer between platforms in different heights, e.g. from the pavement into a vehicle). To receive financial support (iv), the project had to go through a double *review process*, a peer review to evaluate the academic quality, and qualitative interviews with the counterparts to evaluate their involvement in the project. The results *implementation* (v) has followed different paths for each prototype. In all three cases, progress was made in validation processes together with the users. In the case of the Low Cost Electric Coupler the group is currently working together with APRI to develop a business plan to allow the organization to promote the manufacturing and commercialization of these technical aids.

TEN YEARS OF STRUGGLING: SOME POLICY LESSONS LEARNED

So far, the program has made six calls in 2008, 2010, 2012, 2014, 2016 and 2019. Over these years, 87 projects were funded in areas such as health, housing, nutrition, gender inequalities, territorial inequalities, disability, informal work, and others.

Evolution of the topics prioritized by the program over the years

The program has faced several bottlenecks, the first of which refers to the origin of demands: where do knowledge demands for social inclusion come from? We have learnt that they can start with:

1. Individuals and organizations directly linked to problems related to social inclusion, e.g. rural rice workers worried by the 'naturalization' of their early deaths wanted an academic assessment about how they were affected by agrochemicals used in their working environments.
2. Individuals and organizations that act as intermediaries, e.g. doctors in a public hospital contacting scholars on digital image treatment to get affordable and high quality software for brain scanning in cases where surgery is needed to treat a child's epilepsy.
3. Researchers who assume a demand in some sector of a population, e.g. low cost synthetic skin, aimed at providing affordable treatments for burns in public hospitals.

Aligning efforts is important, because isolated efforts lead to isolated experiences.

The diversity of cases has shown that the way in which various actors are linked throughout the project has consequences on the implementation of their results. Another important lesson concerning the program is that aligning efforts is important, because isolated efforts lead to isolated experiences. This implies intensively gathering information on what needs to be known around a given problem or a concrete institution: we have worked so far around child and maternal malnutrition as a 'platform-problem' and with the Ministry of Social Affairs and the National System of Care.

CONCLUSIONS

From the perspective of a synthetic recapitulation, it is possible to observe that the process of linking directly social demands and the production of knowledge and innovations in order to solve problems requires directionality. Each stage of such a process requires specific incentives and encouragement. Our program has sought to consolidate these incentives as well as support through diverse strategies. Many difficulties persist, internal to academia and outside of it, but after a decade of struggling, our conviction continues to be strong: it is not a sufficient condition but it is indeed a necessary one, to connect directly advanced knowledge and the fight against social exclusion, providing the incentives and the opportunities for that to happen.

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SOCIAL INNOVATION ECOSYSTEMS AND CITIES: CO-CONSTRUCTION OF A COLLABORATIVE PLATFORM

This article summarizes the analytical and methodological approach used in the co-construction of a digital and collaborative platform named Social Innovation Observatory of Florianopolis in South of Brazil, to understand the emergence and configuration of the Social Innovation Ecosystem (SIE) and its impact on the public arenas of the city.

Carolina Andion / Graziela Alperstedt / Júlia Graeff

INTRODUCTION

This research is based on the assumption that Social Innovation Ecosystems (SIEs) are hubs of collective intelligence and creativity, contributing to solving urban problems, creating new paths of development and reinforcing democracy in cities [1, 2].

In this sense, it is important to understand the dynamics that favor or inhibit mobilization, knowledge co-construction and collective actions around the city's public problems. In order to observe and analyze the practices of the actors that configure the SIEs (as support agents or promoters of social innovation) and their relationships, the Social Innovation Observatory of Florianopolis (OBISF) (www.observafloripa. com.br) was co-constructed. This article presents the analytical and methodological framework adopted to map and analyze the SIE of the city and to develop the OBISF, based on a pragmatic perspective of social innovation [3].

METHODOLOGY AND MOMENTS OF ITS APPLICATION IN THE CO-CONSTRUCTION OF A DIGITAL AND COLLABORATIVE PLATFORM

The OBISF was co-constructed from a research project, linked to teaching and transfer, whose objective was to implement a free access digital platform that allowed to gather information, monitor, and analyze the SIE of the city of Florianopolis.

The premises supporting the construction of the framework were:

1. A multiscale and multidisciplinary perspective understanding the SIE as a network involving multiple sectors (government, business, academia and civil society), different levels of practice (macro, meso and micro) embedded in public arenas [4].
2. A longitudinal and socio-spatial analysis through the georeferencing and long-term monitoring of different initiatives in the city of Florianopolis; a city recognized nationally and internationally as a source of social innovation.
3. A collaborative and experiential learning approach creating spaces in each of the four main moments so that the actors themselves explain their practices against the background of social innovation and construct their own theories about them, stimulating processes of 'public inquiry'.

> It is important to understand the dynamics that favor or inhibit mobilization, knowledge co-construction and collective actions around the city's public problems.

The research project is structured by four main moments: (1) *Territorial and institutional exploration*, (2) *Social Innovation Ecosystem cartography*, (3) *Ethnography in public arenas* and (4) *Relating macro, meso and micro scales*. The four moments are not developed linearly.

Analytical and methodological framework of the Social Innovation Observatory of Florianopolis

1. Territorial and institutional exploration

This first analysis started with a document and content analysis examining the institutional context (laws, regulations, policies and public programs) that supports social innovation in the city. In addition to legal provisions, we looked at the territorial dimension and history of the SIE, including the emergence and development of the SIE, as well as its territorial dynamics, with an emphasis on identifying the main public problems of the city. In order to comply with this step, we interviewed the main actors involved in the city's SIE and analyzed the main reports that deal with the current challenges in Florianopolis. With the preliminary information of the institutional context and the understanding of the formation and development of the SIE, we provide a panorama of what we call a macro scale considered for analysis along with the meso and micro scales.

2. Social Innovation Ecosystem cartography

This stage began with interviewing the main actors supporting social innovation in the city. Following the snowball technique, we expanded the sample of support actors in Florianopolis who we asked to complete a questionnaire to collect information about them and the social innovation initiatives they reinforced. With this first information, the conception and implementation of the platform started. The OBISF team collected free access information about the social innovation initiatives, (from government, business, civil society and universities) and

support actors, including legal format, causes they work with, key audiences and contact information for georeferencing. Afterwards, the social innovation initiatives mapped were observed (by on-site visits) to understand their mobilization around the public problems, the solutions they propose, how they measure their results, who is engaged with the actions, which methodologies and technologies they use, if they influence the public sphere and who their partners, supporters and funders are.

In this process, by the network analysis, more than 10 'network actors' were identified as articulators in the fields of social entrepreneurship, government, academia (Universities) and civil society. These actors were invited to become partners of the OBISF and helped to identify new social innovation initiatives supported by them in the ecosystem, increasing the sample of mapping initiatives. The involvement of the main actors of the ecosystem as partner of OBISF was important to validate the data, legitimate the project and co-create the platform. From then on, the network grew and, with the launch of the OBISF in September of 2017, the questionnaires could be completed online. In this way, a georeferenced map of the support actors and the interrelationships between them and social innovation initiatives was built. All this information about social innovation initiatives and support actors became part of the map, as well as its interrelations. It shapes a mesoscale of analysis that composes the online platform of the Observatory.

Currently (July 2019), the platform has 228 support actors and 306 social innovation initiatives registered, resulting in 534 agents that compose Florianopolis' SIE. Of the306 social innovation initiatives registered, 201 were mapped and 105 were observed.

The number of initiatives observed could be expanded thanks to the involvement of undergraduate students that carry out on-site visits and follow-up the initiatives mapped. This has made it possible to broaden the involvement of the academic community within research and also with the city's EIS.

3. Ethnography in public arenas

In order to follow the 'fields of experience' of Florianopolis' social innovation initiatives, we are undertaking fieldwork with an ethnographic approach to study some specific public arenas. These public arenas are chosen because of the importance of their dynamics in the ecosystem either by the number of social innovation initiatives or by their strategic significance in terms of dynamics reinforcing democracy and sustainability. From the previous cartography and based on the observation of the social innovation initiaves some relevant 'democratic experiments' [5] in the public arenas have been identified. These experiences are followed by systematic observation conducted by postgraduation students in some public arenas: (1) the network that acts in the guarantee of children and adolescentes rights; (2) the urban solid waste treatment network; (3) the municipal public policy forum; and (4) the articulation around urban agriculture.

From the monitoring of the initiatives and their practices, as well as the participation of researchers in public meetings and discussions, it becomes possible to better understand the advances, challenges and consequences of the action of these network actors involved with the public problems in the city. This also allows us to understand the controversies, the different interests and the conflicts around the subject. In this way, we could observe the 'fields of experience' of the public arenas analysed and not just isolated initiatives. So, along with the platform, a kind of 'living lab' was co-constructed to follow and facilitate public inquiry processes in the public arenas studied. The Laboratory for Education in Sustainability and Social Innovation (LEDS) aims to be a collaborative space for the co-construction of knowledge, promoting the interaction between the knowledge produced in the University and in the communities of practices.

4. Relating macro, meso and micro scales

The purpose of the research project is to promote a multi-scale and longitudinal reading of the SIE of Florianopolis, relating its historical, territorial and institutional dimensions (macro scale), with an analysis of its network, forms of cooperation and interaction (mesoscale), as well as the actors' practices (microscale) and its consequences in the public sphere. The research allows to observe in loco how SIE is formed in the interface between the already established institutions and the creative potential of the different actors. In this sense, the goal is to promote collaborative learning through experience in public arenas. This means to reinforce spaces and opportunities to problematization, publicization, exploration and collective experimentation in coping with public problems.

FINAL CONSIDERATIONS

This article summarized the analytical and methodological framework that is guiding the implementation of a digital and collaborative platform that maps the SIE of Florianopolis city, in Brazil. As preliminary results from this research, it was possible to give more visibility for actors and initiatives of social innovation, to promote their interaction and stimulate the co-construction of learning about the SIE and its public arenas. It also promotes spaces for collective reflection about the features of the SIE and its impact in response to the city public problems. This research, with a pragmatist inspiration, does not start from a predetermined notion or concept of social innovation, since we aim to understand the practices enabling a process of theorization. Thus, the platform is available to any initiative promoting responses to public problems in the city. In this sense, our objective is to analyze and provide light to these initiatives, understanding how they emerge, relate to each other and produce consequences in public arenas, (potentially) changing the realities were they are inserted. More than a structural analysis of the SIE, we look forward to strengthen and disseminate the public inquiry practices in the city, contributing to reinforce dynamics of experimentation of democracy and promotion of change towards more sustainable styles of development.

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THE AUSTRALIAN CENTRE FOR SOCIAL INNOVATION: TEN YEARS, NINE PATTERNS

The Australian Centre for Social Innovation shares nine practical patterns for social innovation, drawn from 10 years of practice.

Chris Vanstone

In 2009, The Australian Centre for Social Innovation (TACSI) was set up to further progress on social issues in Australia. As an independent not-for-profit organisation with $6m of seed funding, it was up to the team and the board to work out how. That $6m gave TACSI some early years of freedom to pursue its interests and make some big splashes, to invest in things that were good to do and to establish a back catalogue to display what we could achieve. When the seed funding came to an end, we had to shift from asking 'what social innovation do we want to do?' to 'what social innovation will people pay for?'. This tension between exploring big ideas and meeting the needs of the market continues to drive the development of our work at TACSI.

The front page of TACSI's first website featured what was, in 2009, a very a common question: 'What is social innovation?'. We've continued to ask that question over the last ten years. What is it, what do we want it to be, how do we organise to do it? We might now count ourselves among the elders of the social innovation lab world – but we're still learning. Nearly every week we have to find new ways to talk about what we do, because it's still new, and it's still evolving.

We don't yet have a process with a 100% success rate. We don't yet have a guaranteed way to shift systems, take solutions to scale or convince decision makers that social innovation is essential to addressing inequality and enabling

growth. We still face weekly setbacks as we try to design projects, shift systems and find people with the capabilities needed to do the work.

So what do we have to share? Across the 100 or so projects we run each year, we're always looking for patterns of what works (and what doesn't) to refine our approach, to avoid making the same mistakes, and to get better outcomes. Here are nine patterns from ten years.

NINE PATTERNS FOR SUCCESSFUL SOCIAL INNOVATION

1. *We've learnt about the power of people helping people*
Family by Family was our first service level solution, Weavers our second, and recently we've been working with lived-experience peer workers in the mental health sector. Every week we see how, with the right support, peers can provide a vital and often untapped resource for people going through tough times. Peers can speak your language, help normalise your situation and share strategies that relate to your context.
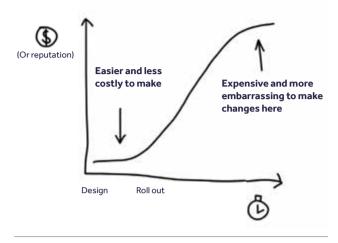
2. *We've learnt about the importance of mind-sets and conditions for innovation*
We often are invited to build innovation capability in organisations, and we've found, repeatedly, that it's not skills that are the most significant barrier. It's the individuals' mind-sets to engage with innovation, and the broader organisational ability to resource and create the space for early stage experiment and later stage integration. To do innovation well many things need to be in place.

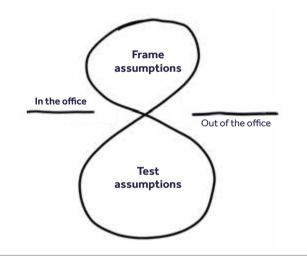### 3. *We've learnt to explain innovation as a way of mitigating risks rather than taking a risk*
Getting your hands dirty with 'innovation' can be seen as a risky business, especially in government. We've learnt to talk

> **Across the 100 or so projects we run each year, we're always looking for patterns of what works (and what doesn't) to refine our approach, to avoid making the same mistakes, and to get better outcomes.**

about innovation as a way to mitigate the risk, embarrassment and cost of something not working in the long term.
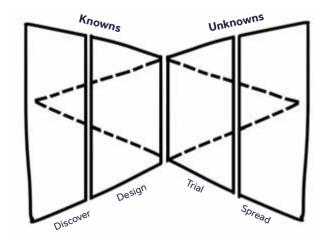

Social innovation and risk

We talk about social innovation processes as an approach to testing assumptions, to move from unknowns to knowns.
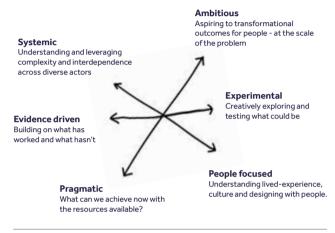

Testing assumptions

Moving from unknowns to knowns

4. We've learnt that innovation teams have to balance tensions

Sometimes we work on a project and it feels like the team has just got what it takes. You can characterise the forces at work in these projects with three dichotomous pairings: how do you stay ambitious and pragmatic, how do you see from the perspective of people and systems, how do you work with existing evidence and create new evidence through experimentation. And how do you do all of these things at once? Doing so means aligning an eclectic set of people, methods and organisations around shared principles and processes.

Tensions in social innovation

5. We've learnt that experiences, networks, resource flows and capability are all strategies for change in systems
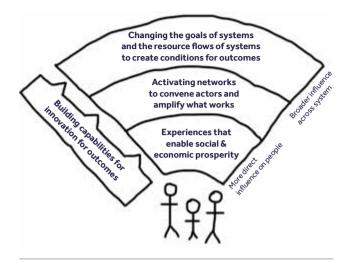
Over our ten years there's been a steady growth in the complexity of our work. Recently, we've been explicitly exploring strategies to create transformational change in systems, and to reflect on our practice so far we've written examples and emerging insights from TACSI's big change work. There's still a lot to learn. In our work at the intersection of innovation and systems, we've identified four practical strategies for impact: experiences that create change for people, networks that amplify what works, changes to resource flows, and building capability at all levels of the system.

6. We've learnt about furthering self-determination through social innovation

In our work supporting Aboriginal-led innovation, we've developed a set of guiding principles for our practice, which we suspect could be applied to all community-led innovation:

• Self-determination: Projects are driven, governed and owned by community
• Relationships first: Earn trust, and plan to be flexible with timelines and pace
• See connections: Understand the past, plan for now, and plan for the future
• See diversity: Recognise the variety of experiences
• Strengthen what's started: Listen to experience, build on evidence

- Tell stories: Create space for visual learning, tactile sharing and storytelling.

Systems of innovation

- Working with rigour, agility, evidence, experimentation and practice wisdom.
- Furthering self-determination by communities experiencing marginalisation.
- Building capability so that individuals, organisations, systems and the planet are better equipped to tackle the challenges they face.

We're learning about designing people into every step of decision making and delivery in health systems. We're learning about what it takes to enable community led-innovation independent of government and services. We're learning about how to build alliances to influence broader systems change. And we're learning how to design a networked social innovation organisation – our own – to maximise learning, outcomes and growth.

All patterns we can report on in years to come.

7. *We've learnt that 'social innovation' is rarely a call to action*

In our attempts to galvanise a movement around social innovation in Australia we've found that 'social innovation' is often a bad place to start. For many, including those doing socially innovative things, it's an elitist or overly abstract term. What they care about is their practice, the populations they serve, or the mission they are on.

8. *We've learnt that unusual people make social innovation happen*

Though we've spent years experimenting with different methods, we've come to understand that good social innovation is dependent on teams of unusual people. We look for practitioners who can bridge the worlds of innovation, social impact, and leadership – of people, of organisations and in systems. Ideally, we look for deep capability in all three, but we're yet to find that ridiculously talented individual.

9. *We've learnt that social innovation is best defined by principles not methods*

Ten years on, we're getting more confident in naming what we see as social innovation. One of the ongoing challenges and responsibilities we've set for ourselves is to define what quality work looks like in an evolving market and an evolving society, in which we're continually experimenting with new approaches. Sometimes we've defined it too tightly, sometimes too loosely. Today, to us, social innovation means:

- Seeing social problems as economic problems and economic problems as social problems.
- Taking a systemic and long-term view, seeing the interconnectedness of everything.
- Engaging lived experience throughout planning, design, delivery and evaluation.

SOCIAL INNOVATION AND COMMUNITY-LED SOCIAL TRANSFORMATION: SOM ENERGIA AND NEW COOPERATIVES IN SPAIN

Spain has been experiencing the growth of a new generation of social innovation initiatives. These include cooperatives in sectors such as energy, food, mobility, and finance. They experiment with alternative, decentralised, more equitable, and radically democratic ways of producing, distributing, and consuming. Som Energia is an outstanding example.

Sergio Belda-Miquel / Victoria Pellicer-Sifres / Alejandra Boni

COMMUNITY-LED INNOVATIONS IN SPAIN IN A CONTEXT OF CRISIS

In Spain, as in other parts of the world, a number of alternative economic practices have emerged since 2008. The global crisis, the growth of unemployment, precariousness, and deprivation, connected with a cycle of intense politicisation and social mobilisation are some of the reasons behind this boost in alternative practices. Remarkably, this mobilisation not only called for public action, but also actively worked on the construction of alternatives to a system considered exclusionary, unfair, and unsustainable [1].

Driven not only by social and economic needs, but also by political perspectives and purposes, many people joined a variety of processes to build alternative and innovative models of producing, exchanging, and consuming goods and services, to address human needs and to organise life and work.

Of course, these were not new practices, as many alternative economic initiatives existed before the crisis. However, the crisis and the sudden wave of politicisation of society has contributed to the replication, expansion, visibility, and impact of this kind of project.
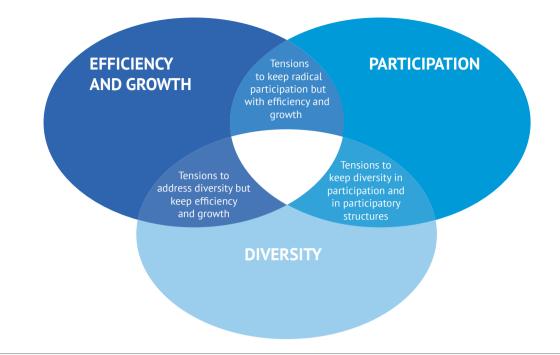
These practices have expanded throughout a wide range of domains: energy, food, finance, housing, etc. They have also adopted very different models and schemes: associations, self-help groups, neighbourhood associations, social enterprises, and cooperatives, among others. From social

currencies and time banks, to food groups, eco-housing and energy cooperatives, social centres, library networks, and so on, this landscape displays a myriad of different initiatives of community-led social innovations [2].

NEW COOPERATIVES THAT ARE TRANSFORMING ALL SECTORS

A number of these new and innovative experiences have developed in the form of cooperatives. In fact, Spain has a long tradition of self-help, self-managed, and cooperative forms of social and economic organisation. This practice experienced a fresh push following the crisis, and new cooperatives joined existing ones. As Wigger [3] points out: *"cooperatives and other horizontally organised and democratically run self-management economic practices have expanded considerably in Spain since the outbreak of the crisis".*

Although each cooperative has its own particularities, they do share some common features:

- They are based on values such as cooperation, solidarity, and participation.
- From these values, they try to experiment with new, fairer and more participatory, decentralised, community-led infrastructures of production, distribution, and consumption.
- They usually emphasise the democratisation, de-marketisation, and de-commodification of various basic goods and services.
- These initiatives are connected to local networks, visions, and knowledge.

Some issues and tensions in social innovation initiatives. Insights from Som Energia.

- They see themselves as a part of a niche of alternatives to mainstream systems of production and consumption.
- They are, in fact, spaces for the experimentation and prefiguration of alternative models. No matter their size or quantitative impact, they are involved in exploring new social, political, and economic arrangements to address human needs.

We can briefly mention some examples in different domains. Some of the most recent initiatives have adopted the initial word *som* ('we are' in Catalan) in their names. This demonstrates that, even though they are separate cooperatives, they share a common language and imaginary, and a sense of belonging to the same movement.

Some older cooperatives, such as *Coop 57*, have found new importance and have supported emerging initiatives. It has been operating since 1995, its objective is to offer responses to the financial needs of citizens and increase the social and solidarity economy. It is deeply connected with local actors in the various territories it operates in, and has supported new initiatives and benefited from the new impulse towards social and solidarity economy.

Almost every sector has seen the birth of various new cooperatives. In the case of food, we find *Som Alimentació*, a consumers' cooperative formed in 2017. It provides its members with access to local and ecological food, limiting intermediaries, and offering fair prices to producers. It arose from the previous experiences of food groups, which expanded rapidly in Valencia after 2011. *Som Mobilitat* is a similar initiative in the domain of transport. Since 2015, it has endeavoured to collectively develop and provide goods and services to accelerate the transition to a more sustainable model of mobility. They offer

car-sharing services of cars owned by the cooperative or by individuals, enterprises, or public institutions. It is organised into local groups to ensure that the people of each municipality are those who promote and adapt the mobility services, which are adapted to the characteristics of each neighbourhood, town, or city. *Som Connexió* works with a similar model. It is the first cooperative in the field of telecommunications in Spain. It has provided services since 2015 and calls for an engaged, empowered, and mobilised citizenry that controls its own telecommunications.

These last three cooperatives have been inspired by the model of *Som Energia,* one of the more relevant experiences of this new wave of cooperatives, in terms of growth, impact, and innovation.

SOM ENERGIA: AN INSPIRING EXAMPLE

Som Energia was created in 2010 with 150 members; since then, it has expanded exponentially across all of Spain, having more than 55,000 members today. From the outset, its members played a fundamental role in developments and in all decision-making processes. A sign of this is the appearance of the 'local groups', which are groups of committed activists that join forces in their own local territory in order to organise conferences, debates, and regular meetings, to both disseminate the products offered by the cooperative and to engage people and raise awareness about sustainability, energy transition, and current ecological challenges. They promote a new culture of energy, explain issues such as fuel poverty or revolving doors, or plan policy advocacy initiatives together with other actors. Beyond the local groups, other democratic spaces for decision-making

exist at the national level: the governing council and the annual assembly. Additionally, further spaces exist for discussion and formation, such as the local groups' annual meeting and September's Energy School [4].

The cooperative commercialises energy, which is acquired in the national daily energy auction (the only way to operate in Spain) and sold to members. However, *Som Energia* also supports local energy projects and carries out lobbying and awareness-raising actions to change energy governance in Spain, so the de-centralisation of energy production, distribution, and consumption can become a reality. Members of *Som Energia* can choose to just buy energy, or become more engaged and take part in local groups, assemblies, or specific activities of the cooperative. We can briefly refer to some of the key contributions of the cooperative [4]:

- *Som Energia* has injected inspiration, credibility, optimism, and self-confidence into similar initiatives. It has been able to operate and grow in a very closed, obscure, and oligopolistic sector, tightly controlled by a handful of huge companies. It has also impressively swelled the number of its members, supported a number of renewable projects, influenced policies, generated new discourses, and tested new models of participation.
- The cooperative has been able to manage diversity. It gathers people with very different profiles and needs. For some more passive members, Som Energia is a service provider, which operates in a more responsible way. Activists, who identify more with terms such as energy sovereignty or de-growth, consider the cooperative to be much more than that: it is a space of participation where they can engage in order to transform the energy system.
- It has been a powerful space for both individual and collective learning. Members have learnt, through active participation, alternative discourses and new ways to organise, act and transform, in a very complex context.

EMERGING TENSION AND QUESTIONS

Finally, we can mention some specific tensions and questions that emerge from the experience of *Som Energia* [4]. Firstly, the issue of efficiency and growth. Rapid growth and the need for efficiency posed a number of problems. For example, it is becoming impossible to provide the cooperative's

members with renewable energy originating solely from small local energy production facilities. This leads to a number of questions, regarding whether it is better to support larger renewable projects, as well, or if the cooperative should stop growing to be fully consistent with its aims.

Secondly, Som Energia faces the question of territorial diversity. The cooperative is present in territories with very different needs, paces of work, political situations, etc. This leads to a number of questions regarding the governance and organisational procedures of a big structure operating in very diverse territories.

Finally, there is the issue of participation. The cooperative has various democratic spaces and procedures; however, they have to be in permanent evolution, due to growth, maturity, and other internal dynamics. This leads to a number of questions regarding how to maintain and expand this democratic way of functioning in such a big structure.

CONCLUSIONS

The experience of Som Energia illustrates a number of tensions of key importance for cooperatives and other social innovation initiatives proposing innovative and transformative bottom-up models in different sectors. These tensions can emerge in a range of issues. For example, between growth and efficiency and values – how to balance growth and efficiency in tandem with maintaining the values and the participatory orientation that make these innovations relevant; between growth and efficiency and diversity – how to keep some kind of unity and an overall strategy but respond to the demands of the different territories and groups; or between diversity and participation – how to balance the very different expectations and political cultures within the initiatives in participatory processes.

Nonetheless, all these innovative experiences in Spain are demonstrating that alternative models of production, distribution, and consumption are already possible. These experiences are full of tensions and complexities, but demonstrate that the political energy mobilised in recent years can be converted into specific and innovative projects to make another world possible.

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CITIZENS COMMISSIONING ART: AN INNOVATIVE SOCIAL AND CULTURAL POLICY PRACTICE

The New Patrons program has initiated an unprecedented social practice. In the past three decades, this practice has renewed civic collaboration and responsibility throughout Europe and beyond. It has suggested to society a new methodology to respond to the cultural needs of various communities in a wide range of settings and in broadly diverse artistic and scientific formats.

Alexander Koch

Art and democracy have one thing in common: their modes of action and representation need to be conceived and practiced afresh every day. Nothing about them can be taken for granted, and only society itself can be the legitimate protagonist of this process of continual historic creation. And yet there is a vitally important sector in which society, as a community of individuals, has very limited say: the commissioning of common cultural goods. Thirty years ago, the New Patrons program proposed to change this, and since then it has realized its ambitions in over five hundred projects commissioned by thousands of citizens who took action and claimed ownership to shape their corner of the world, setting examples for others as responsible stakeholders of social reality.

SOCIAL INNOVATION AND CONTEMPORARY ART

Social innovation and contemporary art are two domains of social and political practice as well as subjects of research whose manifold intersections merit closer scrutiny. They share aims and methods, terrains and debates, and sometimes they arrive at similar results. In many parts of the world, contemporary art contributes to social innovation. In fact, it may fairly be regarded as a kind of social innovation in its own right.

Efforts to remold social relations and practices have a long and ramified history in art. A dedicated study of this history would show how art has time and again changed how we perceive and shape the social world, opening up horizons of active involvement that allowed for the emergence of new forms of collective practice, with cultural, but also economic and political implications. Many of today's progressive social

aspirations have counterparts in the field of contemporary art or partly overlap with it. To harness the potential of contemporary art, we must conceive of it as a social practice rather than the accumulated output of living artists. What is more, the concept has come to comprise a wide spectrum of creative engagements beyond conventional art forms, from architecture and urban planning to cutting-edge digital technologies and participatory processes in the public sphere.

> To harness the potential of contemporary art, we must conceive of it as a social practice rather than the accumulated output of living artists.

A NEW CULTURAL TECHNIQUE

The New Patrons disrupt contemporary art practice with a fundamental innovation – a new cultural technique: citizens from all walks of life and regardless of where they live commission works of art and creative projects that respond to local needs and challenges. They are assisted in their endeavors by mediators: individuals who contribute expertise in art and familiarity with the prerequisites and techniques of aesthetic production. Most importantly – and this is where the mediator's role differs from that of the curator or cultural manager – they put their skills and knowledge in the service of the citizens, helping them commission and implement ambitious projects.

Anyone who engages an artist to make a new work – be it a building, a work of public sculpture, a documentary film, or a piece of music – intervenes into the cultural process, manifesting his or her own position and posture in the public sphere, weaving a distinctive new strand into the fabric of the social discourse, and leaving a mark on society's self-conception. Yet for centuries, the privilege of ordering an important work of art to be made was the prerogative of a small elite, and that has been slow to change: to commission a work of art, one must command social, cultural, and financial capital of a kind that few people have access to.

A NEW PLAYER ON THE STAGE: THE CITIZEN-PATRON

There is no reason why we should accept that large parts of the public in democratic societies – and non-democratic societies certainly do no better – are generally excluded from active involvement in the cultural production of their time and reduced to the role of consumers. The institutionalized cultural sector generates a variety of offerings; some prove to meet popular demand, while others do not. Many of these offerings perpetuate social distinctions, and it is uncertain whether they respond to actual needs that exist in the community. As it is, the *citoyens*, as the true sovereigns in the democratic process, have few opportunities to participate proactively in the genesis of cultural goods that form part of their meaningful world and inform the life of society.
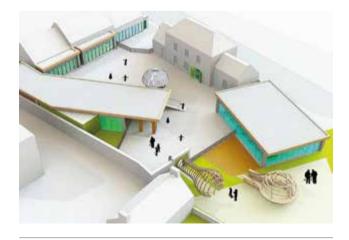
As part of the New Patrons program, the practice of the mediators is crucial to helping people, whatever their backgrounds, to join forces with influential contemporary artists. As patrons, they express the desire – indeed the deeply felt need – for new cultural goods and in doing so also articulate their interests, concerns, and positions as active members of their communities. Many New Patrons projects prompt the formation of new temporary alliances and the emergence of local networks as patrons rally support from or cooperate with public administrations, businesses in their region, private foundations, the press, their neighbors, and other citizens.

THE NEW PATRONS PROTOCOL

The foundations for this new cooperation between citizens, mediators, artists, and their partners were laid in 1990, when the artist François Hers in Paris penned the *New Patrons Protocol*: a document that laid out in plain terms the roles of the various parties and their responsibilities in a shared process whose goal is to bring works of art into being. The Protocol was released under an Open Source license, to be appropriated by anyone who respects the rules it sets forth, and has become the founding document of a growing movement, first in France, then across Europe, that is now active in fifteen countries around the world.

This movement is sustained by independent mediators who are affiliated with regional small-to-medium-size nonprofit organizations. The international New Patrons structures have grown from the bottom up; in keeping with the movement's grassroots spirit, they are decentralized and organizationally autonomous, linked by informal networks. There is no headquarters or international leadership structure, nor should there be. In Germany, where around twenty pilot projects have been initiated to date, developing the program is a social mission bringing together a large number of partners from politics, civil society, the private sector, and cultural institutions who work to create the conditions that allow individual patrons' initiatives to put their ideas into practice.

"WE WANT TO COMMISSION A NEW SCHOOL"

One real-world example from France: By 2007, the number of students enrolled in the school "Le Blé en Herbe" in Trébédan, a village of four hundred people in Brittany, has dwindled to sixty-four. Two teachers want to commission an educational trail through the surrounding landscape, and the designer Matali Crasset is recruited. However, it soon turns out that the school has bigger challenges to face: the building is antiquated. Crasset and the patrons draw up an ambitious design for an architectural and social renewal of the school, bringing it up to contemporary ecological standards and turning it into a venue for the entire community for decades to come. An alliance of parents, senior citizens, and the municipal council supports the project. The school is upgraded to meet the most demanding energy-efficiency standards, and a kindergarten and a dining facility are added. The design is open to nature as well as the village square, includes numerous sculptural elements, and incorporates community spaces for all residents. It serves as an engine that encourages community activities and social exchange, making the school a community center in the true sense. The ensemble is now widely acclaimed as an outstanding example of innovative and integrative school architecture.

The New Patrons of Trébédan, MataliSI Crasset: École le blé en herbe school, 2015

WHEN THE IMPROBABLE BECOMES FEASIBLE

Some of the most accomplished New Patrons projects are striking illustrations of the extraordinary possibilities that open up when people rally to address an issue and decide to make changes in their corner of the world. A silver monster mobilizes an entire town and is adopted as its new landmark. Farmers give their declining village a thorough makeover and in the process gain a completely new self-image. A pygmy clan living in the rainforest builds its own cultural center and a botanical garden. New life fills the empty storefronts of a town center. And three nurses decide that their hospital ward needs a nondenominational prayer room.

The New Patrons of Bures-sur-Yvette, Jessica Stockholder: Mathematical playground, 2005

The New Patrons of Marseille, Michelangelo Pistoletto: Place for multiconfessional devotion and prayer, 2000

Time and again, projects like these inspire the imagination of citizens and artists alike, spurring them to take on even the most unusual challenges and have faith that art can bring something into being that will be deeply meaningful to themselves and others.

The New Patrons' active involvement manifests itself in village squares and town halls, in university cafeterias, youth centers, and jobless people's hangouts. New Patrons live in rural areas and urban centers, in single-family homes and public housing projects. And the New Patrons make sure to guard their political independence. Higher authorities and experts support their ambitions – but do not tell them which concerns to address, which goals to pursue. Because who would know better than local individuals what matters to their community? That is why desires and visions are always articulated locally and in a shared process, ensuring that the new work of contemporary art will also be a valuable contribution to democratic solidarity and spark innovative responses to social challenges.

> **Who would know better than local individuals what matters to their community?**

STRENGTHENING THE SOCIAL INNOVATION COMMUNITY

The Social Innovation Community (SIC) started from the premise that we need better and more collaborative approaches to address societal challenges effectively. The project was designed to increase social innovators' capacity to act, and to support public and other decision-makers. Therefore, SIC ran a series of on- and offline activities in experimentation, learning, policy and research.

Madeleine Gabriel / Christoph Kaletka

CONNECTING A FRAGMENTED MOVEMENT

One of the biggest challenges for the field of social innovation (SI) globally is that it is fragmented. In Europe, while the European Commission has supported a number of research, coordination and support projects with valuable outcomes, actors in research and policy as well as in the different fields of practice are relatively disconnected. This means that the field of social innovation, although dynamic and changing rapidly as new trends emerge and new groups of actors come on board, is still not living up to its full potential and achieving the societal impact needed. Social innovators working at the 'frontline' find it hard to access and use research to inform their solutions. Many working in the field – as social innovators or intermediaries such as funders, labs and for incubator programmes – are tackling similar challenges, but miss out on opportunities to learn from each other. As a field dominated by small, often informal organisations with limited resources, those working in social innovation find it hard to communicate their work to a wide audience and to get their voices heard by governments.
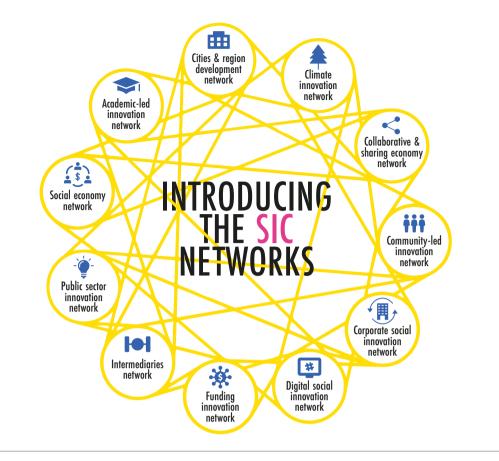
When starting the Social Innovation Community (SIC) project in 2016, we recognised that these challenges affected different groups in the SI field in different ways. Various well-established networks already existed, including research networks, like EMES and DIESIS; networks of intermediaries like Impact Hub, MakeSense or Ashoka; communities within the digital social innovation space like OuiShare and the DSI4EU network; as well as communities with a broader focus like that of Social Innovation Exchange (one of the SIC partners). Other groupings were much more emergent, with a few isolated organisations only recently starting to connect with each other and identify with the idea of social innovation – such as public sector innovators, and organisations working in community-led social innovation.

This is why the overarching aim of the Social Innovation Community was to strengthen social innovation networks and help them create more impact by connecting with each other. Over the course of three years, SIC identified, engaged and connected actors including researchers, social innovators, policy-makers, as well as intermediaries, businesses, civil society organisations and public sector employees.

> **Social innovators working at the 'frontline' find it hard to access and use research to inform their solutions.**

This activity was organised around eleven 'networks' of social innovation actors, at different points on the 'well-established to newly emergent' spectrum. A consortium of twelve partners took responsibility for engaging with actors in these networks, as well as leading a set of cross cutting areas of action – Research, Policy, Experimentation and Learning. The project was designed so that actors from the different networks would work with each other, and with these action areas. By reaching into these different networks SIC was able to bring fresh ideas and different perspectives to the project. The SIC networks were a way to tap into the pockets of dynamic social innovation activity across Europe, which often act in silos.

CONNECTING RESEARCH, LEARNING, EXPERIMENTATION AND POLICY

The challenge faced by many European Commission funded projects is that dividing the project into well-defined work packages creates silos. Usually, these projects do not include a formal mode of exchanging, connecting and learning as

Introducing the SIC networks

the members of the consortium focus on their own work packages. The Social Innovation Community was intentionally different. Consortium partners in SIC were encouraged to build relationships throughout the networks, not just with those with whom they directly worked, and the different strands of action were intertwined.

Prior to SIC, the European Commission had already funded around 30 social innovation projects. Recognising that these had all produced a considerable amount of theoretical output and/or empirical data, SIC's **research** work aimed to build on, synthesise and communicate this knowledge base, rather than to create new knowledge. A first step was to carry out an evidence based review drawing together research from scholarly and practitioner literature, relating to each of SIC's networks. With this we aimed to create a framework for a common understanding of social innovation, examining past trends, the latest evidence and emerging methodologies in order to identify priority areas through the project's future roadmap.

The consortium also supported the emergence of a social innovation research community as well as the advancement of social innovation in theory and practice, by bringing together researchers and practitioners in a series of workshops focusing on transformative research and emerging 'hot topics'. To make this work accessible to a wider audience, SIC created an online research forum, where

partners posted short blogs to communicate interesting new research on social innovation, as well as research outputs from SIC's activities.

SIC also aimed to help social innovation networks to strengthen their practice by promoting social innovation learning. After a review of **learning** needs across the different networks, SIC designed and delivered a series of participatory learning processes. We also developed and shared models, tools and other resources of best practice through our Learning Repository.

One of the key outputs of this work was the SIC Summer School, a two-day deep dive event where researchers, social innovators, citizens and policymakers from different networks could meet, co-produce and share knowledge by reflecting on current hot topics in the field. We ran five Summer Schools in different cities over the course of the project, allowing to test and refine the model and tools – with the intention that partners can continue to run Summer Schools after the project has finished. SIC also developed and trialled Learning Relays, an experimental process that combined a face-to-face thematic workshop with online learning activities where participants tapped into each other's knowledge and networks to crowdsource input for each other's challenges.

To support social innovation 'on the ground', SIC conducted **experiments** to test new models of collaboration to address locally defined issues and challenges. Five experiments were conducted in four cities in Italy, Norway, Estonia and Croatia, in close cooperation with a host centre. The goal of these experiments was to identify challenges and then to co-create solutions. In Turin, for example, stakeholders worked together with SIC and a local host centre to co-create solutions to local housing problems. One of the solutions resulted in a new housing policy in the City of Turin with a holistic and human centred approach to the solution given by the municipality and stakeholders.

Finally, SIC aimed to give social innovation networks a greater voice in **policy**. The project ran a series of ten masterclasses in cities across Europe to bring policymakers and social innovators together, helping to foster greater understanding of social innovation amongst government officials, and vice versa. In the second half of the project, attention was turned to the negotiations on the EU's next Multi-Annual Financial Framework and proposals for programming, aiming to ensure that social innovation continued to be supported effectively at the EU level. To do this, SIC co-created the 'Lisbon Declaration on Social Innovation' (see the article of Reynolds et al. in this chapter), with over 350 representatives of the community from 19 EU countries. The Declaration sets out ten policy proposals that this community would like the EU and member countries to implement. The recommendations aim to reflect the different needs and interests of SIC's networks – for example, 'social innovation fellowships' are proposed to support grassroots community-led innovation, an innovator-in-residence scheme to promote social innovation in the public sector, and an initiative to create social innovation intermediaries in all EU countries. Carlos Moedas, Commissioner for Research, Science and Innovation, publicly declared his support for the Declaration in November 2018.

CAPACITY BUILDING FOR AND WITH SOCIAL INNOVATION NETWORKS

The SIC networks sat at the core of the SIC project. We recognised from the start that the project would stand or fall on our ability to engage with a wide range of actors in the SI movement. However, we did not have the resources to create new, formal membership networks – and as noted above, several of these already existed. Moreover, when we consulted people in the SI field on potential governance arrangements, early in the project's lifetime, they expressed a clear preference for fluid, flexible connections rather than a formalised, bureaucratic structure. SIC therefore conceived its approach to engaging networks as 'facilitation'. Within the consortium, facilitators were identified for each of the eleven networks. Their roles were to make links with actors and existing networks in these fields, and help them build better connections with each other, and with other networks

and SIC activities. SIC network facilitators ran workshops and online discussions, participated in others' events to promote the project to relevant actors, took part in online exchanges, and produced content (e.g. articles) to disseminate on platforms relevant to their networks.

In practice, finding an effective approach to network facilitation with the resources available to the project was challenging. It took some time to develop effective ways of working. Over the course of the project, the different network facilitators took on different approaches: some worked largely by connecting with established networks and introducing actors within those networks to SIC. Others focused on reaching out to actors who did not already self-identify with social innovation and creating new, informal communities of practice. Over the course of the project we found that engagement with the networks was easiest and most effective when we connected this work to our learning, research, experimentation and policy activities – giving networks a clear reason to engage. We also found that activities bringing people together across networks were most valuable, and something that was distinctive to SIC – for example, connecting well established digital social innovation networks to funders who are starting to engage in social innovation.
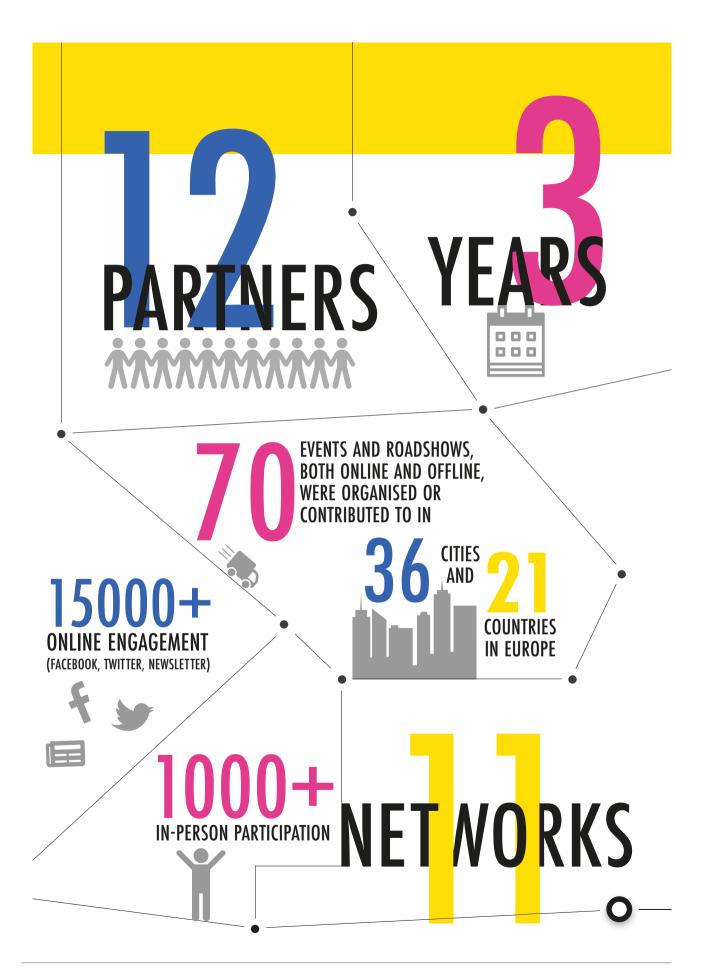
The diversity of SIC networks and the collaboration across them gave SIC the potential to address complex challenges – for example, within our experimentation work package, and our summer schools, we brought people together to carry out focused work on issues like migration, refugees and the future of work. SIC was able to work as a 'backbone organisation' of social innovation by bringing together these different networks.

> **The diversity of SIC networks and the collaboration across them gave SIC the potential to address complex challenges.**

SUSTAINING SIC

From the very start, a key objective of SIC was to create products and structures which would not disappear or simply be stored in an archive. Instead, we aimed to sustain the main outcomes far beyond the project's lifetime. Here are some examples of what will go on and what can be accessed and used:

The **SI Assembly** is a European-wide group established to provide a link between SI actors in Europe, and to help to ensure that SIC (including key outputs like the Social Innovation Declaration) continues to be visible regionally, sectorally and within key institutions which SIC might want

12 PARTNERS

3 YEARS

70 EVENTS AND ROADSHOWS, BOTH ONLINE AND OFFLINE, WERE ORGANISED OR CONTRIBUTED TO IN

36 CITIES AND **21** COUNTRIES IN EUROPE

15000+ ONLINE ENGAGEMENT (FACEBOOK, TWITTER, NEWSLETTER)

1000+ IN-PERSON PARTICIPATION

11 NETWORKS

The SIC project at a glance

to influence. The task of the SI Assembly is to provide an overarching frame for the different groups and networks that have been supported by and through SIC and any emerging and new group in the field of social innovation. Its first online meeting was held in June 2019, providing a platform for around 20 organisations to share current work and build connections.

The **Lisbon Declaration on Social Innovation** is the most tangible output of SIC's policy work. The consortium sees it as one of the most likely areas that the project could make a lasting policy impact for the wider social innovation community. The SIC consortium has decided to form a self-sustaining **EU Social Innovation Policy Alliance (SIPA)**, to continue advocating the recommendations within the Declaration, and working to promote a 'social' model of innovation in Europe. SIPA intends to become a coalition of organisations working together to achieve these goals, with SIC partners Nesta, REVES and AEIDL, and additional partner Nesta Italia, leading this work in its start-up phase.

The **SIC Learning Repository**, provides access to blogs and resources related to the public sector and the use of social innovation to improve the welfare system. There is lots of content supporting the public sector to take advantage of social innovation in the everyday practices of service delivery. All tools produced and collected during the SIC project can be accessed that support the design and experimentation of social innovations by innovators, intermediaries and the public and private sectors. (www.silearning.eu)

Several SIC methodologies have been codified and made available for others to use. For example, anyone can use the workshop methodology of **Policy Masterclasses** (as long as the SIC brand is used and credit is given to the partners who created the concept). Guidelines of how to set up an effective Policy masterclass are documented and available on the Learning Repository. Meanwhile, **Summer Schools** will continue to be organized under the umbrella of the European School of Social Innovation (ESSI).

The SIC Research section has also migrated to the ESSI website in order to sustain the research elements of SIC. All key research outputs and other important research pieces are available on the ESSI website (www.essi-net.eu) for free, including the **Research Forum** content.

So while the SIC project has come to an end in 2019, its key outputs will not disappear but live on and make a contribution towards further connecting a still fragmented movement that is the Social Innovation Community.

CO-PRODUCING A EUROPEAN SOCIAL INNOVATION DECLARATION

The Lisbon Declaration on Social Innovation sets out ten policy proposals for the EU and its member states. Madeleine Gabriel and Sophie Reynolds (Nesta) describe how the Social Innovation Community project co-produced the Declaration and look forward to the future of social innovation policy in Europe.

Sophie Reynolds / Madeleine Gabriel

INTRODUCTION

It's January 2016. The European Commission (EC) has funded over 30 social innovation research projects as well as competitions, accelerators and networks for social innovators. But despite all this activity, the community as a whole feels fragmented. There are some strong networks – among them researchers, digital social innovation, social economy organisations – but many others take part in the movement without identifying with it.

Enter Social Innovation Community (SIC), a project funded through Horizon 2020. SIC aimed to help the community become 'more than the sum of its parts'. Through research, experimentation, learning, policy and communications activities, SIC engaged with researchers, social innovators, citizens, policymakers, support organisations and intermediaries, businesses, civil society organisations and public sector employees to build new connections and strengthen their social innovation practices.

In October 2018, SIC launched the **Lisbon Declaration on Social Innovation** [1]. Co-produced with over 350 people from 19 EU countries, the Declaration included ten policy proposals aimed at EU institutions and member states. This article reflects on why we produced the Declaration, what we achieved, what we learned – and what we are doing next.

WHO NEEDS ANOTHER DECLARATION?

Before SIC, several other EC-funded social innovation projects had created manifestos and declarations. The SI-DRIVE Policy Declaration and the Manifesto for Transformative Social Innovation set out visions for socially innovative policymaking in Europe, while the Digital Social Innovation Manifesto proposed policy ideas to facilitate more digital social innovation. Going further back, the 2014 Strasbourg Declaration on Social Enterprise [2] was co-created between the EC and social entrepreneurs – and sought to strengthen European policies for social businesses.

Importantly SIC did not plan to create a Declaration from the outset. So why did we do it?

First, it was timely. By 2017, EU institutions and member states were already negotiating the EU's next long term budget (the Multiannual Financial Framework, or MFF) and what the priorities would be for the 2021-2027 programming period. In previous negotiations, the social innovation community had had little influence – we wanted to change that.

Second, with the MFF as a clear target, we could make concrete proposals about how to shape new, strategic EU programmes like Horizon Europe and European Social Fund Plus to support social innovation – and achieve societal objectives – more effectively. However, we did not want to reinvent the wheel; we started by synthesising the principles, values and policy ideas expressed in other manifestos and declarations, using this as a starting point for our own document.
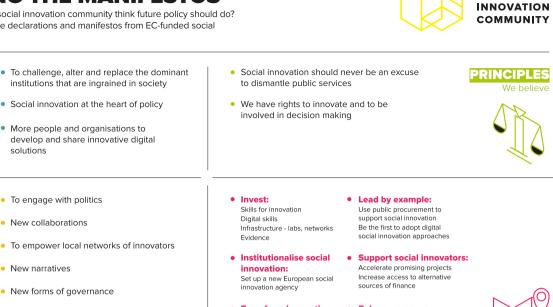
CAN POLICY IDEAS BE CO-CREATED?

In developing the Declaration, we aimed to be user-centred and inclusive (reflecting the values we wanted policymakers to adopt). At the same time, we knew that crowdsourcing creative policy ideas would be difficult. We had already run a series of ten 'policy idea generation workshops' as part of SIC, and found that because policy is a new topic for most people, they often find it hard to devise actionable ideas and proposals.

AMASSING THE MANIFESTOS

What do people in the social innovation community think future policy should do? We've summarised three declarations and manifestos from EC-funded social innovation projects.

SOCIAL INNOVATION COMMUNITY

GOALS
We want

- To challenge, alter and replace the dominant institutions that are ingrained in society
- Social innovation at the heart of policy
- More people and organisations to develop and share innovative digital solutions

- Social innovation should never be an excuse to dismantle public services
- We have rights to innovate and to be involved in decision making

PRINCIPLES
We believe

OBJECTIVES
We need

- To engage with politics
- New collaborations
- To empower local networks of innovators
- New narratives
- New forms of governance
- Space for experimentation
- Openness, transparency & democracy
- Skills

- **Invest:**
  Skills for innovation
  Digital skills
  Infrastructure - labs, networks
  Evidence

- **Institutionalise social innovation:**
  Set up a new European social innovation agency

- **Transform innovation policy:**
  Remove barriers to innovation
  Value social and technological solutions
  Provide incentives for multidisciplinarity
  Give social innovators a role in public research programmes

- **Lead by example:**
  Use public procurement to support social innovation
  Be the first to adopt digital social innovation approaches

- **Support social innovators:**
  Accelerate promising projects
  Increase access to alternative sources of finance

- **Raise awareness:**
  Among citizens (opportunities)
  Among public authorities (practices)

ACTIONS
Policymakers should...

Read the originals:

SI-DRIVE Policy Declaration
www.sidrive.eu

Manifesto for Transformative Social Innovation
www.tsimanifesto.org

DSI Manifesto
www.dsimanifesto.eu

Amassing the manifestos

So we combined two main approaches. **First,** we developed a short online survey that focused primarily on understanding priorities and needs. We made it available in French, German and Spanish as well as English and circulated it through SIC's newsletter, mailing list and social media. We received over 200 full responses. These helped us pinpoint some of the community's main policy concerns, such as the unsuitability of EU funding and regulations for small-scale social innovation experimentation that could eventually scale impact or that citizens and civil society would like to play a greater role in using EU funding to launch their own local community-led innovation initiatives.

Second, we organised several workshops to discuss specific policy areas. These included a large workshop at the EC's Lisbon conference, as well as a series of online roundtables focusing on policy challenges such as spreading social innovation to regions where it is currently not well supported. Another 150 people participated in these discussions.

In the end, some of the proposals in the Declaration – like the idea for 'Social Innovation Fellowships' – came directly from the community. Others came from the SIC consortium, and were developed and refined with input from members of the wider community and policymakers at the EC.

> In developing the Declaration, we aimed to be user-centred and inclusive.

WHAT DOES THE DECLARATION... DECLARE?

The Social Innovation Declaration calls on the EU to make social innovation a core part of its strategy and programming for the 2021-27 period. Drawing on the themes that emerged from our consultation activities, it sets out five priorities that Europe should address in order to help the social innovation movement achieve its potential. They include:

- Making funding suitable for small-scale experimentation, spreading and scaling impact
- Enabling citizens and civil society to lead local change initiatives through community-led innovation
- Strengthening the capacity, skills and incentives for public officials and policymakers to support and draw on (citizen-led) social innovation
- Making public procurement an instrument of social innovation policy
- Prioritising the spreading of social innovation to regions where it is needed most

The Declaration calls on the EU to make social innovation a core part of its strategy and programming.

The Declaration also distils core values expressed in the various manifestos and declarations that other social innovation initiatives have produced, and proposes that European policymakers should follow as they negotiate the new EU budget and programming. These include, for example, putting openness, democratisation and inclusivity at the heart of innovation, and ensuring that social innovation is never used as an excuse to divest from public services or leave citizens less well off.

The Declaration then makes ten policy proposals, each backed up with ideas for implementation and a brief justification. The recommendations are organised into three distinct but interdependent groups.

Recommendations one to four aim to bring social innovation from the margins to the mainstream of EU policy, by making social innovation a cross-cutting priority in all EU policies and programmes. They include:

1. Creating a cross-service European Social Innovation Action Plan, to create a coordinated approach to social innovation across parts of the European Commission and other institutions of the European Union
2. Using the Multiannual Financial Framework to create long-term investment and support for social innovation across all Commission services, including, for example, research and innovation funding, InvestEU and structural funds
3. Creating a new European Observatory of Social Innovation Policy to help share good practices and spread social innovation policy approaches across member countries
4. Setting up a pan-European network of social innovation evidence centres to provide insight and evidence on the impact that social innovation is having in tackling societal challenges.

Recommendations five to eight focus on actions that require strategic partnerships between EU, national and regional authorities to unleash the power of communities to drive change, including smaller organisations. They include:

5. Launching a Europe-wide initiative to expand the number of regional social innovation support organisations, with a particular focus on places where the social innovation ecosystem is less well developed
6. Supporting the creation of locally-controlled asset-based community bodies in all European Member States, to encourage community-led social innovation
7. Establishing 'Social Innovation Fellowships' to cover living costs for people developing local change initiatives, to enable individuals from a variety of backgrounds to take part, and to alleviate problems of 'volunteer burnout'

8. Setting up a strategic initiative to help smaller, socially-focused organisations to access EU funding, since these are often the most innovative and closest to communities, but can find bureaucracy and eligibility requirements for EU funding overwhelming.

Finally, recommendations nine and ten recognise that the public sector can also be an important supporter, incubator, partner and purchaser of social innovation – particularly if the goal is to tackle some of the biggest societal challenges facing the EU. Our consultation found that there was a critical need to strengthen public officials' capacity, skills and incentives to support social innovation. Recommendations nine and ten therefore seek to foster social innovation in the public sector, by:

9. Embedding social innovation actors in governments through a new 'Innovate4Europe' initiative
10. Establishing 'Public Procurement Pathfinders' to improve social innovators' access to public contracts.

CAN DECLARATIONS INFLUENCE POLICY?

We knew that simply creating a document would not be enough to ensure 'policy uptake'. Instead we took a more direct approach. We set up 'Policy Action Teams', where SIC partners worked together on specific areas, such as research and innovation policy or structural funds.

We also set up an online petition to collect endorsements (by early 2019 over 650 people had endorsed the Declaration, from 27 EU countries). We wanted high-level recognition from the EC, and worked with Commissioner Moedas' cabinet (the European Commissioner for Research, Science and Innovation) to arrange a presentation at the Web Summit in Lisbon 2018. The Commissioner received the Declaration on stage and stated that the EU "will put more money into social innovation" [3].

Some of the Action Teams' recommendations were accepted by the MEP 'rapporteurs' preparing the European Parliament's responses to ESF+ and Horizon Europe proposed regulations. The Committee of Regions subcommittee also adopted some of our suggested definitions for social innovation and social experimentation (Article 2), and a moderate version of the budget allocation we suggested for Article 13.

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We also held conversations with EC officials to explore opportunities for specific recommendations to be funded, and used the Declaration to structure discussions about social innovation policy in cities like Athens and Amsterdam.

WHAT DID WE LEARN?

For many social innovators, influencing policy feels like a distant goal. SIC tried to give greater voice to the social innovators we worked with. Here are some of our key insights about how to influence policy:

- **Be opportunistic:** The constraints of a grant-funded project made it challenging to reorganise our resources when preparing the Declaration. But the opportunity to influence policies which could make a big difference for our community – like the MFF negotiations – informed our overall decision.
- **Find common ground:** We tried to understand policymakers' objectives as well as those of the SI community, and in some cases, we compromised to have a better chance that our proposals would be accepted. For example, we removed a target for how much EU funding should be spent on social innovation, since this was likely to mean that politicians would not support the Declaration.
- **Be tactical:** We formed 'Action Teams' to make good use of our limited resources, and tapped into SIC's consortium and international network to promote the Declaration.
- **Find a champion:** Committed individuals in the EC, the European Parliament, and civil society networks helped champion our cause, opening up opportunities to influence senior decision makers.

WHERE NEXT?

SIC ended at the beginning of 2019, a critical year for European policy with elections to European Parliament and a new Commission taking office. We didn't want our work to stop just because the project was ending. To continue our policy work, we created a new European Social Innovation Policy Alliance – a coalition of organisations aiming to keep pressure on European institutions and member states to make space for social innovation.

Europe's social innovation community still doesn't have nearly as much lobbying power as some well-funded industries – like the pharmaceutical or automotive industry. But the positive reception the Declaration and our social innovation policy work received underlines a vital truth – more and more people across Europe are crying out for the purposeful, collaborative, empowering cross-sectoral experimentalism that social innovation represents.

Through the Alliance we hope to engage with more policymakers across Europe to work with us on translating this vision into real action.

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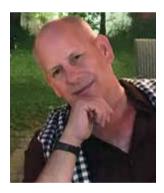
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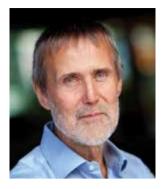
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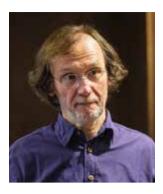
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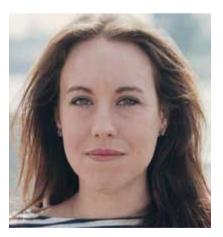
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ABOUT THE ATLAS
OF SOCIAL INNOVATION

The series *Atlas of Social Innovation* aims to provide a comprehensive overview of multifaceted manifestations, contexts and perspectives of social innovation. The first volume *Atlas of Social Innovation – New Practices for a Better Future* was initiated as the final publication of the SI-DRIVE project in 2018 (**www.si-drive.eu**), collecting the project's main empirical findings complemented by social innovation perspectives going beyond. By now, the book series Atlas of Social Innovation has developed into a project of its own.

After the completion of the SI-DRIVE project, the second volume *Atlas of Social Innovation – A World of New Practices*, again compiled and realised by a research team of TU Dortmund University, forms a pivotal building block of the European School of Social Innovation's (ESSI) outreach activities. ESSI is an important think tank strengthening social innovation by enhancing research and scientific knowledge on Social Innovation (**www.essi-net.eu**).

By gathering leading experts, the Atlas of Social Innovation opens up new insights in current trends of social innovation research and its connection to other schools of thought and research traditions. As diverse as the new practices labelled social innovation are, the conceptual underpinnings draw on the experience of a variety of disciplines contributing to the rich, multi-layered nature of the phenomenon. By building up a knowledge repository for a growing community of practitioners, policy makers and researchers, it opens up new avenues to unfold the potential of social innovation.

The Social Innovation Community is a joined force working on the creation of a supportive framework and a social innovation friendly environment paving the way to create a world of new practices. The Atlas of Social Innovation is underpinning such network activities by providing an overview of social innovation around the world, its regional mainstreams, its current trends, ecosystems and infrastructures.

Complementing the print publications, all of the two volumes' articles are available at the online repository (**www.socialinnovationatlas.net**). Similar to the book series, the online repository was based on the results of the global research project SI-DRIVE (funded within the 7th Framework Programme of the EU), which aimed at deepening the knowledge about social innovation as a driver of social change. Together with the digital version of the articles, the homepage provides a virtual world map of social innovation initiatives. Here, comprehensive data and exciting insights into the variety of ideas, solutions, actors, policies, cultural contexts and themes defining and enclosing social innovation are presented in an interactive way. It visualises the myriad of social innovation initiatives worldwide, spanning policy areas from Education, Employment, Energy Supply and Climate Change, Mobility, Health and Social Care as well as Poverty Reduction. Stakeholders and innovators, policy-makers, scientists, entrepreneurs and everyone interested in the rich world of social innovation is invited to use the map as a source of information and/or as a tool to map further initiatives and activities dedicated to addressing the social, economic, political and environmental challenges of the 21st century.

The world map at www.socialinnovationatlas.net

The *Atlas of Social Innovation* series provides a comprehensive overview of the multifaceted manifestations and practices of social innovation from a global perspective. This second volume brings together leading experts of the field. In 43 articles, the atlas gives new insights into current trends of social innovation research and its connection to other schools of thought and research traditions. The conceptual underpinnings of the contributions draw upon the experiences of a variety of disciplines contributing to the rich, multi-layered nature of the phenomenon. By building up a knowledge repository for a growing community of practitioners, policy makers and researchers, the book opens up new avenues to unfold the potential of social innovation.

With contributions from:

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