

TNO report

Understanding Social Innovation as an Innovation Process

Research carried out during the EU-FP7 Project “SI-Drive, Social innovation: Driving force of social change”, 2014-2017

TNO innovation
for life

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Abstract

A large-scale international project 'SI DRIVE: Social innovation, driving force of social change 2014-2017' collected 1,005 cases of social innovation across the globe in seven policy fields: Education, Employment, Energy, Transport, Poverty, Health and Environment (Howaldt et al., 2016). From those 1,005 cases 82 were selected for in-depth case study. These 82 cases are re-analysed in a secondary analysis using Qualitative Comparative Analysis (QCA). Our purpose is to contribute to the mapping out of the innovation landscape: how are these social innovations developing; is there a resemblance with the 'innovation journey' (Van de Ven et al., 2008) of innovations in technology/business?

Social innovation exemplifies experiences that are developed in the field of mutual aid and solidarity, and stress social value rather than business profit. Part of social innovation are initiatives of individuals/communities, of private entrepreneurs, of public organisations, and of combinations of those. Over time they may become either fully private, public or a public-private partnership.

The innovation journey is a process model that makes a distinction between the initiation, developmental and implementation/termination period of innovations; it looks at drivers and barriers, like innovation managers, investors, setbacks, adaptation, infrastructure. We operationalise this model, its periods and variables and apply it to the process of social innovation, to gain insight in the dynamics of these rather new practices of (social) innovation and in the character of collaboration between actors.

The results show that out of 128 possible combinations of seven variables - elements of the innovation journey model - six combinations have the highest chance to result in adoption of the social innovation. None of those variables is a necessary nor a sufficient condition for adoption. While differing 'paths lead to Rome', no assurance can be given that 'anything goes', because the six empirical paths limit theoretical options. The implications for practitioners is to study the six successful combinations and steer their social innovation initiatives into the direction of any of those combinations that fits best with their own practice.

Key words

Social innovation; Innovation process; Adoption; Innovation journey

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1 Introduction

Social innovation is a fast growing phenomenon, but the field is characterized by conceptual ambiguity and a diversity of definitions and research settings. This situation impedes developing generalizable knowledge and formulating articulate theories and hypotheses about the antecedents and consequences of social innovation, and under which circumstances they operate, emerge and scale (Van der Have & Rubalcaba, 2016).

Social innovation initiatives abound but many of them fail to become sustainable in their effort to improve social conditions. The social innovation literature is listing several obstacles and barriers. Caulier-Grice et al. (2010), for example, categorized four main areas of barriers:

1. Access to finance;
2. Availability of scaling models;
3. Insufficient skills and formation;
4. Missing networks and intermediates.

The EU-FP7 project “Social Innovation: Driving force of social change” (SI-DRIVE) which investigated 1,005 cases of social innovation initiatives, reported that concrete barriers were specified for three out of four initiatives. Funding is by far the main challenge for more than half of the cases. Lack of (qualified) personnel and knowledge gaps are hindering about one out of three initiatives. Legal restrictions and missing political support are a third block of barriers, relevant for 14-17% of the cases (Howaldt et al., 2016: 74-75). In addition to these shortages of resources - financial, human, (scientific) knowledge, legal and political - social innovations often lack organizational and leadership capabilities and infrastructural embedment, creating environments that are not friendly enough for sustaining and upscaling such initiatives (Dhondt et al., 2018). Such barriers can be reasons why social innovations do not sustain or scale up. This report investigates the question which factors contribute to the adoption of social innovation. Adoption means that the social innovation is accepted, used and applied because it is experienced to provide social and public value.

2 Theoretical Background

2.1 Social Innovation as a Concept

There are many definitions of social innovation but there hardly is any consensus (Amanatidou et al., 2018; Edwards-Schachter & Wallace, 2017; Howaldt & Hochgerner, 2018; Van der Have & Rubalcaba, 2016). Social innovation as understood by the European Commission/European Union is meant to 'empower people, and driving change' in the sense that it leads to social change that produces sustainable social inclusion (Fougère et al., 2017). In SI-DRIVE the applied working definition of social innovation is *'a new combination or figuration of practices in areas of social action, prompted by certain actors or constellations of actors with the goal of better coping with needs and problems than is possible by use of existing practices. An innovation is therefore social to the extent that it varies social action, and is socially accepted and diffused in society (be it throughout society, larger parts, or only in certain societal sub-areas affected). (...) Depending on circumstances of social change, interests, policies and power, social ideas as well as successfully implemented social innovation may be transformed and ultimately institutionalised as regular social practice or made routine once the innovation becomes standard, new demands for change may occur and possibly give rise to a new wave of social innovations'* (Butzin et al., 2014: 151-152). Social innovation in this sense is not yet a full grown social change laid down in social structures. But it is also more than just a separate, loose social project or action, as the definition considers social innovation as a, at least, moderately institutionalized practice. Such practices imply that there is a relationship, a link between social innovation projects and initiatives in a specific domain or around certain topics or social issues (compare Howaldt & Hochgerner, 2018). A cluster of projects within a practice field describes general characteristics common to different projects (Howaldt, 2018). Hence, this evolutionary definition sees the clustering of social innovation practices as the sustainable social change that successfully solves social problems as an ultimate goal. However, In the studied empirical reality we observe rather much variation when looking at the 1,005 cases that have been mapped in the SI-DRIVE project (Howaldt et al., 2016). Many of these cases do not achieve sustainable social change, and are yet assessed as social innovation by the researchers who did the original case studies - i.e., researchers in the SI-DRIVE consortium other than the authors of this article. As we shall describe further on, our sample consists of 82 cases that are selected as best cases from those 1,005. We already mention here that even many of these 82 cases that were selected from those 1,005 as salient examples, fail to scale up as sustainable social change. Therefore, we ask ourselves what are we looking at when we want to understand those social innovation initiatives of SI-DRIVE? Obviously it is very difficult to narrow down a social innovation definition and still include all those heterogeneous cases. The 82 cases namely differ in many respects.

First of all, those cases were not selected only with a successful end result as a criterion. They could be endeavours to try to combat social issues from seven different policy fields (see data section).

Second, the selected cases play at different levels, namely individual, community, organization, municipal, regional, national (sometimes international).

Third, initiators of cases could be individuals, non-profit organisations/NGOs, private business, state/governmental, or a combination of these.

Fourth, cases are diverse in their history and existence. Some are of a recent nature, while other started in the former century. Some have become large organisations, other remained small, some became wide spread while others remained locally concentrated.

Fifth, some initiatives have commercial and entrepreneurial goals, while others only strive after social and societal value.

Therefore, as we observe a high diversity and variation of social innovation, we need a concept of social innovation in which the majority of all these 82 fit, in trying to understand these cases. While 'innovation' can be defined as the invention, development and implementation of new ideas, social innovation implies that these ideas have the purpose to combat social problems. Social problems are any situation that prevents individuals, groups or communities to be included into society as is understood in 'inclusiveness' and 'participation'; or, conversely, any individual, group or community that is socially excluded from social welfare and well-being. Social inclusion is the process by which societies combat poverty and social exclusion (Atkinson & Marlier, 2010).

2.2 Complexity

Social innovation is not only a slippery concept because the social aspect is hard to pin down, also the term innovation in relation to the social aspect is a complicated matter. Innovation as a tangible end state can for instance be a product or service. Garud and colleagues suggest that we learn more of this phenomenon if we consider innovation as a process (Garud et al., 2013). That process is inherently complex, because many variables interact, and the outcome of their interplay cannot be predicted nor controlled. Regarding the process of innovation Garud et al. (2013) distinguish in the first place three phases, namely invention, development, implementation. Each phase requires different skills and different kinds of stakeholders. In the second place different kinds of complexities arise in innovation processes:

1. Co-evolutionary complexity, because they simultaneously imply multiple levels of analyses;
2. Relational, as they involve a diversity of social actors and material elements;
3. Inter-temporal, as temporal events and sequences are experienced in multiple ways;
4. Cultural, as they unfold in contextualized settings.

Finally, innovation processes unfold at different levels, namely firms, multi-party networks and communities. This implies differences in the kind of interactions, in legal status, in competitiveness and co-creation, and in public, private or public-private entities (Garud et al., 2013: 774, 777). While complex innovation processes cannot be controlled and managed, one can learn to manoeuvre it; as such processes are never similar, they do tend to follow remarkably similar patterns (Van de Ven, 2017; Van de Ven et al, 1999; 2008). Complexity also helps to explain why social innovations have difficulties in scaling up. According to Westley et al. (2014) social innovators require different skills to move from scaling out to scaling up, where the first is limited to engaging more people and cover a larger geographic area, whereas the latter aims at a social, institutional change of the system itself. Westley et al. (2014: 254) argue that institutional change requires three types of capabilities such as:

1. Cultural and social skills (cognitive, knowledge management, sense making, convening), to recognize emerging patterns and sense the moment when change is possible, as well as to discern which innovations have the potential for institutional change;
2. Political skills (networking, advocacy, lobbying, coalition building), to recognize and mobilize relationships that could help advance social innovation to the upper scales;
3. Resource mobilization skills (financial, social, intellectual, cultural, and political capital) to seek and leverage needed resources.

The complexity of innovation processes not only informs us on the interdependency of events, people and things, but they also tell us that it leads to something that did not exist before. As Bessant and Tidd put it: *'Getting a good idea into widespread and successful use is hard enough - but growing and sustaining a business requires the ability to repeat the trick. (...)*

Success isn't about luck - although there is probably some truth to the old saying (...) 'the more I practice the luckier I get!' Innovation is about managing a structured and focused process, engaging and deploying creativity throughout but also balancing this with an appropriate degree of control' (Bessant & Tidd, 2007: 438).

2.3 Innovation

The literature on innovation, organisational change, project management and re-structuring is highly consensual: about 7 out of 10 efforts fail in the sense that their journey does not arrive at the desired spot (for instance Beer & Nohria, 2000; Mulder, 2016; Sauser et al., 2009). Apparently, innovation processes are not easily predictable and successful. Innovation studies made clear that innovation processes are non-linear, hard to predict, rich of emergent properties and serendipities and sometimes even wicked or chaotic.

To study and analyse social innovation we need a conceptual approach that is open to a complexity perspective of the social innovation process and is helpful to understand the adoption of the social innovation. Such an approach should allow to discern patterns of the innovation process and improve the theoretical insight into the mechanisms that drive the adoption of social innovations. The 'innovation journey' model for technological innovations suits these requirements, which was developed during the Minnesota Innovation Research Program of the former century (Van de Ven, 2017; Van de Ven et al., 1989; Van de Ven et al., 1999/2008).

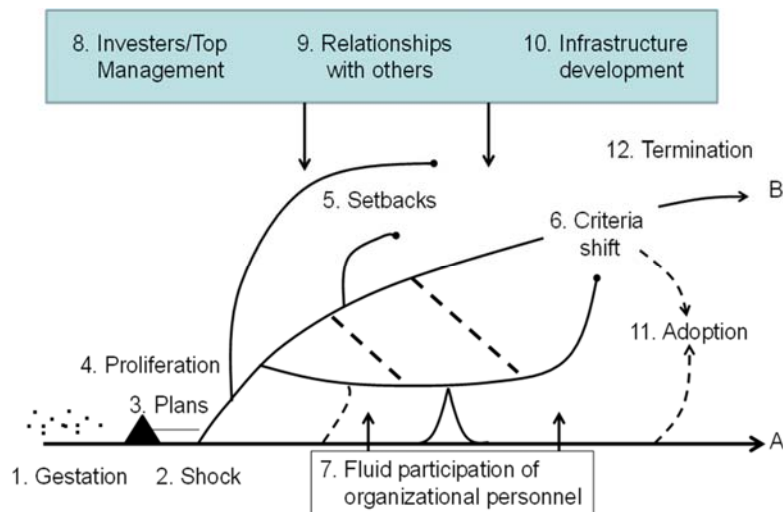


Figure 2.1 Key components of the innovation journey of technological innovations (Van de Ven et al., 1999/2008: 25)

The mentioned innovation journey (Figure 2.1) understands innovations as a nonlinear cycle of divergent and convergent activities that may repeat over time and at different organisational levels if resources are obtained to renew the cycle. Although innovations are unique, there seem to be patterns of commonality pertaining to the initiation, development and implementation periods. Preceding the initiation of an innovation there is a gestation period of seemingly coincidental events, 'shocks' from internal and external resources triggering concentration of efforts, and making of plans to obtain resources. A developmental period sets in after this stage setting launching period, during which concentrated efforts are undertaken to transform the innovative idea into a concrete reality. Finally, an implementation or termination period is

observed in which the innovation is adopted and institutionalised as an ongoing program, product, or business or it is terminated and abandoned (Van de Ven et al. 1999/2008).

The 'richest' period in terms of events and complex interactions is often the developmental period. Van de Ven et al. (1999/2008) make clear that much is happening with ups and downs in an iterative way, without really being able to control what is happening. The initial innovative idea proliferates into numerous ideas and activities that follow different paths. There are frequent setbacks and mistakes because plans go awry or unanticipated environmental events alter ground assumptions of the innovation. Over time, criteria for success and failure often change, resulting in power struggles between stakeholders, especially resource controllers and innovation managers (innovators) inside and outside the organisation. Innovation personnel participate in highly fluid ways. They are involved part-time or project-based, have high turnover rates, and experience changing human emotions (euphoria, frustration, closure). Investors and top managers have a strong influence in exerting checks and balances on one another and performing interventions. They take important decisions or solve problems. Finally, there is the involvement of third parties, like competitors, trade associations, government agencies and so on that either support or hinder the development and implementation of innovations.

Innovation therefore seems impossible to be managed easily, let alone be planned (Van de Ven, 2017), it can only be intended and facilitated. The complexity of interactions is growing by the day. The strong heterogeneity of customer demands has a diverging effect on innovation paths. Meeting customer demands has stimulated open innovation. Shorter product life cycles enhanced a continuous need for venture capital and pushed innovation to become a multiplayer endeavour. But what do you do if you still need to manage an innovation, and have to deal with uncertainty (Böhle, 2011; Wolf, 2011)? One has to manoeuvre carefully, based on broad knowledge and experience (Van de Ven, 2017).

The model of the innovation journey has been applied mainly to technological innovation; its application to social innovation is, as far as we know, novel. It is therefore relevant to mention a few differences between social innovation on the one hand, and technological innovation and 'innovation in management' on the other, (the latter meaning to include innovation in management, organisation and business) (Dhondt & Oeij, 2014). Social innovation differs from innovation in managerial and technological contexts. Where social innovation addresses fulfilling social needs and meeting public demands and public value (and social value) in a social way, innovation related to management and technology is stronger linked with profitability, market demands and commercialization (Phills et al., 2008; Pol & Ville, 2009). Yet, apart from such differences there are also connections, as social innovation also affects new business models (Zahra et al., 2009) of both private and public organisations. Social innovation offers for example new potentials for producing public goods without (much) public administration and for making socially valued goods and services, without being dependent on capitalism (investment capitalism) only. In this regard one could point to the initiatives from business with the intention to contribute to social goals. Sustainable production, green technologies and corporate social responsibility are examples of these. Moreover, there is an increasing importance of social innovation as compared to technological innovation, because better deploying social resources is a 'conditio sine qua non' to solve societal challenges (Howaldt & Schwarz, 2010; Howaldt & Kopp, 2012).

2.4 The Scope of the Study

Our study investigates patterns of the innovation process in 82 cases of social innovation. These patterns can inform us of possible strategies for adoption of the innovation, and as such,

for scaling up such initiatives in order to become embedded and more institutionalized. The 82 cases differ in the extent of driving social change, in that some have resulted in significant change, but many have not, and remained rather marginal improvements from a societal point of view, as they focused on relieving direct social needs for smaller groups or geographical areas

While the contribution will not go deep into the issue of how social innovation drives social change, the SI-DRIVE project (www.si-drive.eu) studied the relation between social innovation and social change. But this is not a self-evident relation. Moreover, social change as a concept is also rather complicated. '*Social change means different things to different audiences*' (Chirrot, 1977: X). Generally, a theory of change should include elements such as structural aspects of change (like population shifts), processes and mechanisms of social change, and directions of change (Haferkamp & Smelser, 1991). Social innovation is targeting at a specific type of social change: a positive change for people, especially under-served populations. Although social change is often unplanned, social innovation is intentional, and therefore it is normative (value based), controversial, and political. The normative aspect is captured by the intention to 'improve the world', how modest or tiny its scale may be. At least, at a local level, social innovation initiatives are meant to make a difference for local community participants or for civil societies at a larger scale. That is what is driving the social innovators (especially when working with less privileged communities). The complicated nature of social change (Howaldt, 2018) urges us to limit our focus to the social innovation initiatives in the real world, especially on the drivers and barriers of these initiatives. The implication is that we therefore concentrate on elements of the innovation journey and adoption, and disentangle our analysis from explaining social change, which would be far too ambitious.

Given these thoughts and the varied scope of the 82 cases in our sample we suggest this working definition of social innovation: **the invention, development and implementation of new ideas with the purpose to (immediately) relieve and (eventually) solve social problems, which are in the long run directed at the social inclusion of individuals, groups or communities**. This definition leaves behind the notion of 'practice' (Butzin et al., 2014) and the necessity of institutionalization, and sees the eventual 'implementation' of innovation as an indicator for success.

In this paper we investigate to what degree the social innovations were adopted in society. By 'adoption' we mean whether they scaled up to achieve growing corporation and stimulating social change. We measure those social innovations against the dimension where on the one end the social innovation only incidentally and partially served a target group of disadvantaged persons or communities (but did not achieve dissemination or social/societal change); and at the other end we position social innovations that became institutionalized as a sustainable social practice (which influenced social change, i.e. it significantly met social needs that reduced the social problem). The values between both ends indicate a combination of geographical dissemination and participation and partnerships. If social innovations scaled up (institutionalize social change in the system) or scaled out (spread to more people without social change of the system), we want to know which combination of elements played a role, for which we use the model of the innovation journey as developed by Van de Ven et al. (1999/2008).

3 Methods

3.1 Data

The data are 82 case studies of social innovation initiatives and projects which were conducted for seven policy fields in the SI-DRIVE project, 'Social Innovation: Driving force of social change' (2014-2017). The policy fields are:

- › Education and Lifelong Learning (Schröder et al., 2017);
- › Employment (Oeij et al., 2017);
- › Environment and Climate Change (Schartinger et al., 2017);
- › Energy Supply (Ooms et al., 2016);
- › Transport and Mobility (Butzin et al., 2017);
- › Health and Social Care (Heales & Green, 2016);
- › Poverty Reduction and Sustainable Development (Millard et al., 2017).

Within each policy field ten in-depth cases studies on average were performed by different researchers, which were reported in seven separate reports (see above) and one overview report (Ecker et al., 2017).

The selection framework of the 82 cases was the database of the 1,005 mapped cases by SI-DRIVE (Howaldt et al., 2016, see appendix 1). The cases were nominated for in-depth study on the basis of the theoretical framework (Howaldt et al., 2014) and the SI-DRIVE partners' knowledge and experience of those cases, which was to indicate that the selected cases were among the most successful in terms of operational sustainability and achieved results, i.e. positive effects for their target groups. Practical selection criteria involved access to and willingness of the initiatives' representatives to participate in the research and guaranteeing a certain general regional variety was taken into account as well. The 82 cases of the seven policy fields stem from more than 30 countries worldwide (Annex Table 8 in Ecker et al., 2017; see appendix 2).

The 82 cases are analysed and described according to the case study format of the SI-DRIVE project and reported separately. Our task was to perform a secondary analysis of those 82 case reports by applying the grid (see Table 3.1) and the operationalized variables of the model of the innovation journey. The original 82 case reports are written by different researchers and, although they used a similar format, they differ in depth, richness and quality, because researchers have different scientific experience, educational and cultural background, and because the cases differ in national, economic and cultural contexts as well. We wanted to make a comparison between the cases, but needed to increase the reliability of these comparison. Therefore we had to reprocess the information. In order to treat those cases in similar fashion the analysis was performed by three researchers with a similar national and cultural background. They first analysed each case in person and gave scores to the questions in the grid (see Table 3.1). In a second step the three researchers discussed their scores and exchanged their argumentation in order to ensure that their interpretation of the case descriptions was in common agreement. This sometimes resulted in adapting their individual scores if the difference between the minimum and maximum score was more than two points (on a five-point answering scale). Calculating the scores that the researchers gave to 82 social innovation cases on 7 independent and 1 dependent variable, resulted in a high and significant intraclass-correlation (ICC, two-way random, average measures = .892). This indicates that there is much agreement among the evaluators, indicating that the inter-evaluator reliability is satisfactory (see appendix 4).

Table 3.1 Social innovation journey compared to business/technological innovation journey. Innovation journey model

Key element	Business & technological innovation	Operationalisation towards social innovation	Questions and answering categories (1-5 point scale)
Initial period			
1. Gestation (incubation)	Phase of incubation in which people engage in activities that set the stage of innovation. Often chance plays a significant role. But structural differentiation is an enabler, if structural boundaries are permeable (i.e. organisational climate). Increases in the number of initiatives undertaken by a large number of interacting people increases the probability of stimulating innovation.	Bringing together the people who start developing a social innovation initiative. Incubation can sometimes be rather lengthy, even years.	A. To what degree were relevant stakeholders involved in the start-up phase? [relevant = played a significant role to start the SI initiative; stakeholders=here others than the target group] 1=no relevant stakeholders were involved 3=(some but not all relevant) stakeholders were involved but their role was not relevant/clear-cut 5=significant stakeholders were involved.
2. Shocks	Shocks trigger innovation. These are internal or external events that concentrate attention and focus the efforts of stakeholders, e.g. new leadership, product failure, budget crisis, loss of market share, etc. (i.e. critical incidents). Stakeholders need to be convinced. Direct personal confrontations with the sources of the problems or opportunities are needed to motivate them to act.	A sense of urgency to launch the initiative by mobilizing the right stakeholders or creating a network ('mass'); or by a social evil/abuse. Social shocks may be clear triggers to create the sense of urgency, but also down to earth 'social needs' and 'empathy' or 'altruism' as a driver.	[The element of shocks will be incorporated in 'set-backs']
3. Plans	Development of plans and budgets submitted to top management and investors to launch the innovation. Innovators are often too optimistic to convince investors. They need more time for capital investment than the time they get for innovation start-up (too overoptimistic to commit investors). Miscalculations are based on over-optimism (risk-taking) and self-deception (mindlessness, confirmation bias)	Developing a concrete approach and a concrete goal coupled to a concrete target group which attracts investors/subsidizers. Also industriousness and charismatic leadership of individuals can be drivers. By hindsight one can reconstruct a business case	B. To what degree was there concrete support for the initiative? [support can be funding, political backing] 1=There was no support 3=There was some support, but it still was not easy to acquire budgets/funding and (political) support 5=there was substantial support [e.g. because there was a concrete (business) plan, with concrete goals which enabled acquiring budgets/funding and (political) support]

Key element	Business & technological innovation	Operationalisation towards social innovation	Questions and answering categories (1-5 point scale)
Developmental period			
4. Proliferation	After launching developmental activities the process proliferates into diverse pathways, complex to manage and like a 'fireworks' model, due to four factors: the ambiguity and uncertainty of the process; innovations were developed not in single entities but in families of related entities creating complexity; through multiple pathways diversifying and leveraging risk was sought after; and different paths require different logics or mechanisms to govern them. The interaction of a few relatively simple developmental processes can cause complexity (i.e. butterfly effect)	Tension between social value and economic value, between government goals and the goals of the social innovation, between the interests of participating stakeholders which complicate the launch or the clear direction of the course. At individual level and in the cases of individual leaders, proliferation can also mean that the burden gets too high or the tasks becomes too complicated	[this topic is too difficult to measure]
5. Setbacks	Setbacks occur frequently because initial plans go awry or unanticipated environmental events occur that significantly alter ground assumptions and context. Path dependency causes problems to accumulate in vicious circles (spill-over effects, interdependencies). Due to four types of learning disabilities the setbacks went uncorrected (noise and mixed signals, ignoring naysayers, premature changes, shifting criteria)	Setbacks are the ending of initial funding and the absence of follow up funding; the absence of good quality personnel; the lack of acknowledgement by policy; the dependency of the project on the initiator or volunteers. As social innovations are heavily dependent on individuals and networks setbacks can also manifest themselves in lack of resilience and motivation.	C. To what degree were the project team/members resilient to effectively deal with setbacks? [setback= a critical incident that threatens the continuation of the SI initiative] 1=there was no resilience/resilient team (observed) [possibly there were no serious setbacks either] 3= there was some resilience [there were some minor setbacks, but no serious ones] 5=there was ample resilience (and there were serious setbacks which threatened the continuation)
6. Criteria shift	The divergent-convergent pattern of outcome criteria held by (internal) innovation managers and (external) resource controllers, implies that in the beginning IMs stress input but RCs outcome, while at the ending RCs stress input and IMs outcome. During the phases of innovation the power balance may shift depending on how stakeholders frame the progress (as success or failure) and act accordingly (e.g. external resource controllers decide about budgets)	To upscale an initiative requires sustainable organisational structure and institutionalisations, initial successes and a clear focus on the intended results, but with more stakeholders it is difficult to achieve consensus. Conflicts and difference of opinion may play a role between crucial stakeholders	D. To what degree is consensus created among the relevant stakeholders? 1=there was hardly or no consensus among stakeholders (serious conflicts of interest remained) 3=there was some/growing consensus, but not enough to make good progress 5=there was a high sense of consensus among stakeholders (resulting in stability and cooperation, and good results)

Key element	Business & technological innovation	Operationalisation towards social innovation	Questions and answering categories (1-5 point scale)
7. Fluid participation	Personnel in innovation teams show part-time work, high turnover rates, and lack of experience (no 'organisational memory') due to job mobility and promotion processes; besides, the part of non-innovation jobs (which they have) have incentives that draw people away from their innovation jobs. Individual transitions, and different human emotions and dynamics during different periods can lead to contradictory individual-group dynamics which erodes team cohesion and effective team work and emphasizes the need for coalition building. This means also that appropriate types of leadership changes over time.	Volunteers may come and go and the initiator may lack the stamina needed, or the qualifications to guide the project from one phase to another	E. To what degree are qualified personnel/staff available? 1=good quality personnel is lacking (participation is fluid and unstable) 3=qualified personnel is not constantly available (there is much turnover) 5=qualified personnel is constantly available, despite possible fluidity and turnover
8. Intervention investors/top management	Top management involvement and roles differ according conditions and organisational settings (direct involvement or at a distance; sponsor, mentor, critic or institutional leader role); responsive to conditions rather than planned action) and were most evident when significant setbacks were encountered. Depending on their positions multiple levels of management involvement provide a balance of cross-checks between contradictory forces.	Stakeholders, partners, investors and policy supporters may complicate the project, or may leave the project; or they can give the project a positive boost and clear direction.	F. To what degree did leadership create synergy? 1=stakeholder or leadership interventions have limited results (as conflicts of interest remain present) 3=the present leadership cannot create clear direction 5=stakeholder or leadership intervention creates synergy (it can transform conflicts of interest into synergy and/or shows charisma)
9. Relations with (external) others	Over time more players participate resulting in a complex network of exchange relationships, resulting into a variety of unintended consequences (risky transactions, 'hung juries', competition, groupthink, defection). The interdependencies create a point of 'self-organizing criticality' where managing relations should be focused on the web/network of relations instead of dyads.	As a non-commercial endeavour partnerships are needed to move the project forward and to scale up, which requires the policy skills for cooperation but which also complicate managing relationships. In social innovation projects relationships can be based on common ideals in which individuals may operate more individualist than collectivist at times	[this topic is integrated into 'intervention investors/top management' and 'infrastructure development']

Key element	Business & technological innovation	Operationalisation towards social innovation	Questions and answering categories (1-5 point scale)
10. Infrastructure development	To implement or commercialize an innovation a community of industry infrastructure needs to be created with financial, educational and research organisations. Attention is demanded to the role of public sector as stimulator/inhibitor, to the organisation of the infrastructure, the firms that cooperate, resource distribution channels of firms, and competitors vs co-operators. Inherent is the paradox of cooperation and competition (triple helix, innovation eco-system).	To become sustainable or to scale up an infrastructure is needed that bundles a variety of expertise/experts and (supporting) organisations. Many social innovations start as a personal endeavour for which becoming an organisation or embedded in an infrastructure is just unlikely	G. To what degree was a sustainable infrastructure created? 1=there is no infrastructure, (just the project organisation/leaders) 3=there is some infrastructure but not all relevant partners participate (not very sustainable and with fluid relations) 5=there is a sustainable infrastructure (embedded, organised and coupled cooperation between experts, partners, financiers and/or stakeholders to deliver the SI service/product)
Implementation/termination period			
11. Adoption	Implementation begins when an innovation is applied and adopted (there is a difference between implementation within the organisation that developed the innovation – homegrown - and when the innovation is developed elsewhere). Homegrown: linking and integrating the new with the old, instead of replacing the old with the new. Interdisciplinary task teams encounter fewer problems in developing and implementing innovation; Elsewhere: more difficult due to not-invented-here syndrome. Innovation-adoption is facilitated by modifying the innovation to local needs, top management is involved and commits resources, and process facilitators help people understand the innovation. Autonomy to internalise an innovation is better than formal compliance to adopt an innovation Innovation roll-outs (breadth strategy) are better for innovation-adoption than pilots/demonstration projects (depth strategy) because with roll-outs top	Adoption and dissemination of social innovation depends on the public/social value experienced by target groups and stakeholders/policymakers. Due to the lack of economic viable business models a continuous funding is required. To implement the social innovation elsewhere adaptation to local needs is required, including a network or community or organisation to host the social innovation and bring it to full stature. This can be in the form of new combinations of partners, or transformations from private to public, private to public or into public-private partnerships. In that case we can speak of scaling up. Social innovations do not stop once a service has been implemented, because social innovations help alleviate social problems and not per se solving social problems; social innovations continue to exist. It is important to understand that 'outsiders' call social innovation what insiders may call 'helping others' or 'addressing a social problem' as long as there is a problem	[Outcome variable] H. To what degree did the social innovation (SI) scale up to achieve growing cooperation and stimulating social change? 1=the SI only incidentally/partially served the target group (but no dissemination and no social/societal change) 2=the SI remained local (but no dissemination and no social change) 3=the SI disseminated geographically/grew in scope (but limited social change) 4=the SI scaled up/out by growing participation/partnerships (with others/organisations) and some social change 5=the SI became institutionalised as a sustainable practice (which influenced social change, i.e. it significantly meets a social need that reduces the social problem)

Key element	Business & technological innovation	Operationalisation towards social innovation	Questions and answering categories (1-5 point scale)
	<p>management provides institutional legacy by visibility, top management stays in control and increases its power and provision of budgets, there are fewer hurdles (low hanging fruit), and less chances for opposition and sabotage.</p> <p>Successful management of innovation requires a powerful sponsor and effective process facilitator; a process structured in key junctures; being flexible in acceptance and argumentation regards innovation-adoption.</p>		
12. Termination-implementation or failure	<p>Innovations terminate when implemented or resources run out. Top managers have an antithetical role as supporters and resource allocators, but their role as resource controller is decisive for an innovation, and depends on how they evaluate the progress and attribute success or failure; this attribution process is biased by their position (close or at a distance of the innovation) and has consequences for the remedy (train, easier innovation, reprimand, second chance) and the career of the innovator (negative spill over or not)</p>	<p>Innovations terminate when implemented or resources run out. Successful termination implies institutionalisation, formalisation as policy, or growth into market products/services</p>	[this topic is 'absent' in the sample of cases]

3.2 Method of Analysis: Qualitative Comparative Analysis (QCA)

To analyse the selected cases we used qualitative comparative analysis (QCA) as a research technique (Legewie, 2013). QCA is largely regarded as a comparative, case oriented approach and aims to capture the complexity of a case while providing a certain level of generalization (Rihoux & Ragin, 2008). It enables the researcher to examine the complex causal relationships within each case, and thus to uncover its underlying patterns or configuration. We opt for using fuzzy set QCA (Rihoux & Ragin, 2008). Multiple regression analysis is not applied as this method is insufficient for capturing equifinal configurations common in asymmetric and non-linear data sets; moreover the number of cases is too low to include many variables into the regression. Therefore adopting a case-based approach such as fsQCA (fuzzy set QCA, Rihoux & Ragin, 2008) is appropriate. The fsQCA method allows that multiple combinations of variables can produce the same outcome; using fsQCA to analyse data sets that are asymmetrical and non-linear is preferable (Woodside, 2013).

3.3 Measures

The innovation journey model of Van de Ven et al. (1999/2008) about the process of technological and business innovation is used as a framework to study the process of social innovations (see Figure 2.1). Van de Ven et al. distinguish three phases in time (initial period, developmental period, implementation/termination period) and within these phases they have empirically assessed 11 key elements. We have selected the main elements of their innovation journey model and mapped this to the process of social innovation, and subsequently operationalized those elements, which we renamed as the social innovation journey (see Table 3.1 and 3.2).

Table 3.2 The used variables to operationalize the adoption of the social innovation are (Based on Van de Ven et al., 1999)

<p>1. Initial stakeholder commitment (Gestation) - Agest1</p> <p>A. To what degree were relevant stakeholders involved in the start-up phase? [relevant = played a significant role to start the SI initiative; stakeholders=here others than the target group]</p> <p>1=no relevant stakeholders were involved 3=stakeholders were (somewhat) involved but their role was not relevant/clear-cut 5=significant stakeholders were involved</p>
<p>2. Financial and political support (Plans) - Bplan2</p> <p>B. To what degree was there concrete support for the initiative? [support can be funding, political backing]</p> <p>1=There was no support 3=There was some support, but it still was not easy to acquire budgets/funding and (political) support 5=there was substantial support [e.g. because there was a concrete (business) plan, with concrete goals which enabled acquiring budgets/funding and (political) support]</p>
<p>3. Overcoming setbacks - Csetb3</p> <p>C. To what degree were the project team/members resilient to effectively deal with setbacks? [setback= a critical incident that threatens the continuation of the SI initiative]</p> <p>1=there was no resilience (observed) [possibly there were no serious setbacks either] 3= there was some resilience [there were some minor setbacks, but no serious ones] 5=there was ample resilience (and there were serious setbacks which threatened the continuation)</p>

4. Consensus (Criteria shift) - **Dshift4**
 D. To what degree is consensus created among the relevant stakeholders?
 1=there was hardly or no consensus among stakeholders (serious conflicts of interest remained)
 3=there was some/growing consensus, but not enough to make good progress
 5=there was a high sense of consensus among stakeholders (resulting in stability and cooperation, and good results)
5. Availability of staff (Fluid participation) - **Epart5**
 E. To what degree are qualified personnel/staff available?
 1=good quality personnel is lacking (participation is fluid and unstable)
 3=qualified personnel is not constantly available (there is much turnover)
 5=qualified personnel is constantly available, despite possible fluidity and turnover
6. Leadership (Intervention investors/top management) - **Flead6**
 F. To what degree did leadership create synergy?
 1=stakeholder or leadership interventions have limited results (as conflicts of interest remain present)
 3=the present leadership cannot create clear direction
 5=stakeholder or leadership intervention creates synergy (it can transform conflicts of interest into synergy and/or shows charisma)
7. Infrastructure development - **Ginfr7**
 G. To what degree was a sustainable infrastructure created?
 1=there is no infrastructure, (just the project organisation/leaders)
 3=there is some infrastructure but not all relevant partners participate (not very sustainable and with fluid relations)
 5=there is a sustainable infrastructure (embedded, organised and coupled cooperation between experts, partners, financiers and/or stakeholders to deliver the SI service/product)
8. Adoption - **HadopO** [Outcome variable]
 H. To what degree did the social innovation (SI) scale up to achieve growing cooperation and stimulating social change?
 1=the SI only incidentally/partially served the target group (but no dissemination and no social change)
 2=the SI remained local (but no dissemination and no social change)
 3=the SI disseminated geographically/grew in scope (but limited social change)
 4=the SI scaled up/out by growing participation/partnerships (with others/organisations) and some social change
 5=the SI became institutionalised as a sustainable practice (which influenced social change, i.e. it significantly meets a social need that reduces the social problem)

4 Results of the Analysis

Descriptives like mean, standard deviation and percentile scores (needed for QCA) were calculated, and the K-S test for normality distribution (One-Sample Kolmogorov-Smirnov Test) shows that most variables are distributed normally (save Csetb3 and Epart5) (see appendix 4).

The QCA analysis follows four steps:

1. Transform the data (calibration);
2. Assess necessary causal conditions, i.e. independent variables that must be present for the outcome to emerge;
3. Assess the combinations with sufficient causal conditions, i.e. the combinations of independent variables that together explain the presence of the outcome (truth table analysis);
4. Interpret those combinations that remain after the QCA-calculations, i.e. make sense of those combinations.

Step 1 - Calibration

In fsQCA the original data (Table A3.1) must be transformed into an interval scale (ranging 0 = non-membership to 1 = full membership) using the 'calibration method' (Ragin, 2008). First, the values for the anchor points (.05, .5, and .95) must be determined. The fsQCA programme calculates new values for the scores, unless researchers choose to set them manually. Anchor points can be re-calibrated on the basis of substantial, theoretical arguments, e.g., after inspecting the cases. Often, as we did, anchors are set using the 25th, 50th and 75th percentiles of each variable separately. This is justified by the notion that for this explorative study we lack the theoretical or in-depth knowledge to do otherwise. As said, before the calibration, the mean distributions were checked for normality.

Next, the threshold values of the variables (uncalibrated or raw scores) for all 82 cases were calibrated (Table A3.2). QCA demands that the researcher moves back and forth between theory and data in order to retain the value of 'thick case descriptions' for the analysis. We did not do this, because we did not perform the case studies ourselves. An inspection (superfluous) of the calibrated data did not lead to the threshold for Adoption (HadopO) being adjusted (manual recalibration).

The percentile scores were imputed as the values for calibration of each variable. The extension 'c' to each variable indicates 'calibrated scores'; each score with .5 was manually changed into .51.

Step 2 - Analysis of necessary causal conditions

Necessary conditions are variables that should always be present for the outcome to occur. Hence, if the outcome is present in such a situation, so is that particular condition, and if that particular condition is absent, the outcome is absent as well. In order to see whether the outcome has necessary conditions, a necessity analysis was performed with all the condition variables, for which a conservative consistency threshold of 0.90 was used (Schneider & Wagemann, 2012: 143; see also Ragin, 2008). The results of the analysis of necessary conditions showed that the consistency scores of all variables were all below .90, meaning that there are no necessary conditions for Adoption (HadopOc) to emerge in most configuration. As Ginfr7c (infrastructure) with .82 has a high score, it will emerge in many solutions. However, to emerge in every configuration requires a score of 1 to be a fully necessary condition, which thus implies that the score of Ginfr7c (.82) should be read as 'likely to appear in the majority of configurations' (see p. 46).

Step 3 - Truth table analysis of sufficient causal conditions

A truth table consists of all the possible combinations of the seven condition variables (27 = 128 combinations). The truth table analysis results in 48 paths which are theoretically valid ('logical') and spreads the 82 cases across these paths (Table A3.3). 36 of those cases have a high score of Adoption (Hadop0), which implies that these 'social innovations scale up to achieve growing cooperation and stimulating social change' to a significant extent. These 36 cases fit in 22 paths and this means that there are 22 combinations of variables that lead to the outcome of adoption of the social innovation. The other 26 paths represent combinations that are associated with a low score of adoption. In our sample all 82 cases are 'best cases', but not necessarily in terms of 'adoption'. Cases can for instance be good examples of starting an initiative or in serving a good cause, but still be unable to institutionalize as a sustainable form of social change, and therefore score low on adoption. Thus, in each row the truth table analysis presents all the theoretically possible 48 combinations of causal conditions that may lead to the presence or the absence of the outcome. All the (82) cases are assigned to these logical configurations. For each path, we calculated consistency and frequency scores with the software. The theoretically suggested threshold to drop a case (from further analysis) is the 0.75 consistency value; we take higher demand: 0.80. Consistency is the proportion of cases that display the outcome, due to the fact that these cases reflect a consistent score on the combination of variables that together result in the outcome (the presence of Adoption, HadopOc). By default, paths are included in further analyses by the software when there is at least one observed case for that path. That is why the software calculated 48 'true paths' and divided the (real) cases over these paths. Of those 82 cases 36 are allotted to paths Adoption (HadopOc) is present and 46 where Adoption is absent (score 0; because the consistency score is lower than .80). The software thus selects the 36 'best scores of Adoption' and allotted them to 22 paths Table A3.3).

Next, we studied the solutions presented by the software and chose the best solution. The purpose is for consistent paths to remain in the final solution. None of the 82 cases were inconsistent and discarded by the software. For these cases there were 48 plausible, logical paths. The 48 rows represent sufficiency for the outcome: the combination of variables in each of these rows suffices for Adoption (HadopOc) to emerge (even if there are no actual cases, these options indicate that possible other empirical cases could theoretically fit in any of the 48 paths). In this step the software presents the solution with the least number of variables to be sufficient for the outcome, and best to interpret: it calculates a complex, an intermediate solution and a parsimonious solution. The last solution is the best as it needs the least number of variables to explain an outcome (through so-called minimization procedure) and the least number of paths in an overall analysis.

The parsimonious solution $\text{HadopOc} = f(\text{Agest1c}, \text{Bplan2c}, \text{Csetb3c}, \text{Dshif4c}, \text{Epart5c}, \text{Flead6c}, \text{Ginfr7c})$ produced six paths (see p. 49).

Step 4 - Finalising solutions

The final step in the analysis is to select and interpret plausible solutions (configurations, paths) that lead to outcomes and to conclude which cases correspond to certain solutions. In other words, we identify the paths and give them a meaning. The aim is to find the solutions with the highest coverage score (cover as many empirical cases as possible, similar to explained variance), the highest consistency score, and the minimum possible number of conditions (most parsimonious solution). This solution will be interpreted in the results section.

The parsimonious solution produced 6 paths (combinations or configurations) as depicted in Table 4.1.

Table 4.1 Configurations explaining Adoption of the social innovation (parsimonious solution)

Solution	Causal conditions							Descriptives			
	Stakeholder commitment	Financial and political support	Overcoming setbacks	Consensus	Staff availability	Leadership	Infrastructure	Raw coverage	Unique coverage	Consistency	Number Cases >0.5 membership
1	●	○					●	0.178818	0.0140394	0.857143	4
2	○	●					●	0.203448	0.0406404	0.907692	4
3			○	●			●	0.414040	0.0162561	0.922106	16
4		●		●				0.468719	0.0490147	0.865000	20
5					●	●	●	0.425123	0.0635467	0.900365	18
6	●		●		○		●	0.122660	0.0118226	0.849829	4
Total											66
Model	Solution coverage: 0.741379										
	Solution consistency: 0.855357										

Model: HadopOc = f(Agest1, Bplan2, Csetb3, Dshif4, Epart5, Flead6, Ginfr7)

Cell: ●=must be present; ○=must be absent (); no sign=don't care (ambiguous)

Applied frequency cut-off=1, consistency cut-off value: 0.822314; rows is 48 [36 cases are within the cut-off value; 23 of those 35 are allotted to more than 1 path; 1 case had no fit with any of the 10 paths and was discarded from further analysis; 12 cases with >.5 value on HadopOc were not assigned to a path due to inconsistency; 46 of the 82 cases had <.50 value on HadopOc]

Raw coverage: proportion of cases covered in the outcome by a (combination of) condition(s)

Unique coverage: proportion of cases covered in the outcome by a (combination of) condition(s) to that path

Consistency: proportion of cases within the configuration [(combination of) condition(s)] that display the outcome, i.e. reflect a consistent score on the [(combination of) condition(s)] that result in the outcome.

Six paths contain 66 cases in total, but some of those cases are counted more than once (Table A3.4). There are 36 unique cases of which 15 cases were allotted to two paths and 8 to three paths. The reason why these 23 cases fit in more than one path, is that we were not able to apply a more refined anchor score to set the percentile scores. As said, we performed a secondary analysis on case descriptions that were originally carried out by other researchers. These 23 cases thus fit in more than one combination of variables that results in the adoption of social innovation. The more detailed information available, the more clear-cut demarcations can be made. But in case study research well-delineated demarcations are not always possible. Apart from the 36 mentioned cases, of all 82 cases 12 other cases had a value on the outcome variable Adoption (HadopOc) of >.50, but were insufficiently consistent, i.e. insufficiently coherent in all their combined scores on variables, to be allotted to a path and were consequently discarded by the software; therefore these 12 cases and the 36 remaining cases with Adoption (HadopOc) is <.50, together 48 cases, provide no coherent information about the adoption of social innovation.

The model consistency is high (0.856) and the solution coverage (0.741) indicates that 74% of the cases in the analysis are covered by the model. Paths 2, 3 and 5 are the most consistent paths (more than .90 consistency); the unique coverage of a path indicates the contribution to

the model solution. No path has a high unique coverage which indicates that there is no dominant path which leads to adoption of social innovation.

The six paths that are consistent, indicate that cases exhibiting a given combination of causal conditions also exhibit the outcome of interest. Yet, social innovators can follow different strategies to achieve the same goal: adoption. What do the six paths represent (Table 4.2)?

Table 4.2 Innovation process elements leading to the adoption of social innovation

Solutions (paths)	Elements of social innovation as a journey		Cases
	Present	Must be absent	
1. Filling a gap	Stakeholder commitment Infrastructure	Financial and political support	4
2. Self-reliant empowerment	Financial and political support Infrastructure	Stakeholder commitment	4
3. Incremental progress	Consensus Infrastructure	Overcoming setbacks	16
4. Power-based design	Stakeholder commitment Financial and political support Consensus		20
5. Powerful people and leadership	Availability of staff Leadership Infrastructure		18
6. Resilient goal-getting	Stakeholder commitment Overcoming setbacks Infrastructure	Availability of staff	4

For path 1, for example, there are four cases that use the same path to adoption of social innovation, consistently showing the same combination of variables in their strategies. Technically phrased 'path 1 Filling the gap' states that 86 percent of the social innovations with the characteristics of gestation, infrastructure, and the absence of plans in conjunction, are members of the set 'cases representing adopted social innovation'. Let us see what the cases tell about these six paths.

Path 1: Filling a gap

Initiators observe a system failure as a supply is missing which is needed. Authorities are hesitant to act and finance the initiative: they prefer to wait and see. Other stakeholders undertake joint action (*initial stakeholder commitment*) to fill the gap, using networks that are already in place (*infrastructure*). They progress in pragmatic ways with limited financial and political support (*absence of financial / political support*). When eventually it has proved to work, a quick acceptance and integration in the system or adaptation of the infrastructure follows (*again infrastructure*).

Box 4.1 Healthy Kinzigal (Germany)

Core of the social innovation

Core of this social innovation is to 'offer an integrated care model for a whole population or region; organizing integrated care programs across all health service sectors and indications. Instead of producing specific care services, the program focuses on producing better health. In addition the approach also addresses marginalized groups such as migrants and addicts. Examples are the programs 'non-smoking Kinzigal', 'Strong muscles – strong bones' and 'Healthy companies'. The problem this social innovation is intended to solve is that the public health care is 1) inefficient and costly,

2) not effective nor of high quality, because actors do not cooperate and 3) the system is not innovative due to limited research and development of medical practices and/or development of competences of the medical personnel.

Strategy

Because the key problem is the lack of cooperation between existing institutions and professionals (from general practitioners, hospitals, nurses and physiotherapists and insurance companies to fitness centres and voluntary associations), the initiators put a lot of effort in getting all these stakeholders involved. Breaking down the silos between disciplines was the backbone of the program. At the start of the project there was resistance from the side of the health insurers; they were not convinced of the cost savings the new approach would realize. In the beginning there was no broad support. However among the initial stakeholders there were two strong believers (insurers) who provided a starting subsidy. Thanks to that limited funding, good management of the first program by a joint venture and a central actor coordinating the activities, the profitability could be shown quite soon.

Drivers and barriers

A joint venture was constituted, namely a network of physicians, a healthcare management company and two insurance companies. These cooperating actors ensured the program proceeded. The initiative profited from the implementation of a Statutory Health Insurance Modernization Act at the time. This act introduced the possibility to negotiate integrated care contracts with German health insurance companies and these companies could legally spend one percent of their total expenditure on integrated care programs. The integration in the existing infrastructure was quite easily because the benefits of the approach were obvious soon and the main actors in the field were already involved.

However, there have still been serious barriers in the German health care system to implement the concept in all (German) regions. There are for instance many health services (so called 'sickness compensation funds') competing each other and focused on short term results. Improving public health is not in their interest, despite the spirit of the new act mentioned above.

Outcome/Result

The integrated care approach proved profitable for both patients and insurers and could be easily integrated in the existing infrastructure. It is adopted in several regions. In fact the initiative appeared to fill a gap in the existing system and showed the expected results in quality of health care, development of medical competences and knowledge and innovativeness as well as in savings. Moreover, in several regions it appeared not that difficult to integrate it into the system using the existing institutions and infrastructure.

Source: Heales & Green, 2016.

The case Kinzigital shows that bringing together stakeholders in the incubation phase (*initial stakeholder commitment*) around the mindset of improving health by integrated care programs instead of narrow-minded focus on care as a service, does need relatively limited *financial and political support*, but requires to break down silo-thinking and introduce interdisciplinary cooperation. The existing *infrastructure* can then easily adapt to manageable changes, for example in the case of the new Act that enabled a flexible approach in making arrangements. A more integral health approach proved to be a successful social innovation in several German regions.

Path 2: Self-reliant empowerment

In this path, relatively few relevant stakeholders were involved in the initial stage of problem analysis and the development of solutions (absence of *initial stakeholder commitment*). Although no large representation of stakeholders was committed in the beginning, the initiative disposes of substantial *financial and/or political support*. Often the initiators developed the

initiative with their own resources. Hence, the solutions, which bear the character of high self-evidence, are quickly embedded in existing organizations or their networks (*infrastructure*), like NGOs or educational organisations, and sometimes scale up when being adopted by international organisations (e.g. UNESCO, Salvation Army). Institutionalisation thus further unfolds (once again *infrastructure*).

Box 4.2 Learning Cycles (Colombia)

Core of the social innovation

Active New School Learning Circles are targeted to children in special vulnerable situations who have trouble integrating in formal schooling systems. They operate in community spaces (not at schools), supported by formal education institutions, parents and social leaders, who all have the objective that children and their families are encouraged to receive an education, and that they can successfully transition into the formal education system after one or two years.

Strategy

During the start-up phase the learning cycle model was created by a single foundation. The initiative received support of international NGOs for a pilot. However, there was resistance against the model from relevant stakeholders like teachers and school directors, who felt their own interests were threatened. Yet, the model was simple and concrete, and therefore quite self-evident: convince children and their families to enrol in formal education the near future, and teach the children necessary basic skills to enable them to participate in formal education. As soon as the pilots showed the success of the initiative, the support of national and international stakeholders increased, the resistance disappeared, and the initiative could be scaled up, up to the point of turning into a public policy by the National Education Ministry.

Drivers and barriers

The support of local communities and families was a crucial driver. Local leaders were involved as tutors for vulnerable children. To illustrate the support, tutors even went to dangerous areas to reach out to the vulnerable children.

A barrier was the lack of credibility in the model from traditional school teachers, and directors of educational institutions. The model threatened the central authority of the teacher and disrupted the traditional learning environment. Success helped overcoming this barrier.

Outcome/Result

In 2006, the Learning Circles became a public policy of the National Education Ministry. Since 2010, the New School Foundation who is in charge of the Learning Circles program, worked in 70 municipalities, where over 700 Learning Circles integrated approximately 11,000 displaced students.

Source: Millard et al., 2017.

This case is a good example of self-reliant empowerment. Although there are only a small number of committed stakeholders in the beginning (absence of *initial stakeholder commitment*), their support to realise a concrete plan is crucial. This social innovation initiative received financial support of an international NGO and used existing *infrastructures* (local communities, NGOs and later schools) to scale up the initiative.

Path 3: Incremental process

Initiators (a researcher, policymaker, social worker) with a convincing idea and with stamina are capable of setting things in motion that along the way create an ever-growing consensus, for instance by mobilizing media attention (*consensus*). The idea does not require much evidence, and does not experience serious adversity (absence of the need to *overcoming*

setbacks), as it often speaks for itself. Step-by-step the social innovation becomes embedded within the system (*infrastructure*) and more stakeholders join the initiative.

Box 4.3 Storytelling Grandmas (Argentina)

Core of the social innovation

The low reading levels of the population, assessed with a survey, triggered an Argentinian writer, Mempo Giardinelli, and a Foundation named after this writer to take action. Grandmothers were found as volunteers to read in schools to students. The social innovation of Storytelling Grandmothers (*Abuelas Cuentacuentos*) promotes the intergenerational tradition of reading in early childhood to improve reading practices and to provide grandmothers (elderly people) with a new meaningful role in society to enhance the social cohesions (solidarity).

Strategy

A key strategy was the use of (local) mass media to advertise the program, inform government officials and call for voluntary grandmothers. Many grandmothers answered the call. This encouraged a growing number of schools to request to participate in the program.

Drivers and barriers

The Foundation which developed and carried out the program had high credibility, which supported widespread acceptance of the initiative by grandmothers and schools. The Foundations' goal was to enhance reading among disadvantaged groups. This reading program was focused on bringing together voluntary grandmothers and schools (as important stakeholders). These stakeholders, grandmothers, school directors and teachers, showed high commitment. The program was embedded in existing institutions and profited of the existing infrastructure. The program won international awards which supported its dissemination and knew no serious setbacks.

Outcome/Result

There were incentives for reading, and a meaningful social role for elderly women. The program was extended to several municipalities and provinces, and was institutionalized when the Ministry of Education (Argentina) set up a nationwide Storytelling Grandmothers and Grandfathers program (2006). The program was replicated in Brazil, Colombia and Chile.

Source: Schröder et al., 2017.

This Storytelling Grandmas case is a good example of the incremental social innovation because there was a growing *consensus* for the self-evident initiative *without serious setbacks*. The initiative gradually developed towards a national program, as it fits well in existing traditions and educational institutions, and was eventually even copied by other countries.

Path 4: Power-based design

Appropriate social innovation takes off when it is in itself a sound concept, but requires power to get accepted (*financial and political support*), because, for example, it is a new technology or it requires the application of new technology. Ingenious persons (like in one case a university professor) make such plans accessible and understandable, and soon many relevant stakeholders follow (*initial stakeholder commitment*), public-private partnerships emerge or communities carry it forward. Consensus gradually grows (*consensus*). Because of its appropriateness, the idea fits within the present system, which consequently easily enables funding. Infrastructural embeddedness seems not required, as sometimes the roots of these ideas have already been simmering in society for a while as more or less accepted (but not institutionalized) practices: you cannot be against the idea.

Box 4.4 She Taxi (India)

Core of the social innovation

She Taxi is a cab service for women travellers operated by women entrepreneurs. The social innovation project has three important characteristics that form the base of the solution namely (a) safety and security of women, (b) entrepreneurship by women, and (c) employment for women. The core idea was to come with safe transport options for women and families which can further help gender equity. The solution was to create a taxi service especially for women by women entrepreneurs. Crime rates against women are high and to travel alone is unsafe for women, especially during night times. This hinders their labour market and educational participation, and also female entrepreneurship.

Strategy

Gender Park, an autonomous institution, developed the idea together with the Minister of the Department of Social Justice (in the state of Kerala). Gender Park (GP) as institution was promoted by this Department to resolve the gender inequity in development. After governmental approval it issued a public notice in the newspaper dailies as call for Expression of Interest for the roles of vehicle partner and technical partner, and for female cab drivers.

Drivers and barriers

She Taxi was launched and flagged off by the Minister for Social Justice and features a multi-stakeholder, public-private partnership that facilitates the whole process. The government, the private sector and the women entrepreneurs are all important stakeholders of this process and involved from the beginning. The project was instigated by the incident of Soumya murder (2013), a woman who was traveling by train in Kerala and was raped and murdered. Media coverage and publicity generated by a prominent film actress acting as a brand ambassador for She Taxi, were driving forces. The proactive presence of the State and its ability to facilitate meaningful business partnership with business/private stakeholders (public-private partnerships) propelled this social innovation. There was no government funding, apart from funding the launch. Banks provided loans to the interested women entrepreneurs.

Outcome/Result

She Taxi has expanded to several cities and districts in Kerala state and outside, and was replicated in other states as She Bus and G Taxi (for transgenders). She Taxi increased the visibility of women in public spaces and the (safe) mobility of women in cities. And it increased economic participation of women.

Source: Butzin et al., 2017.

She Taxi exemplifies the path 'Power-based design'. In this case an influential institution to promote gender equality (Gender Park, GP) that was created by a Ministry developed a convincing plan. Right from the beginning several important *stakeholders* were committed: the government, the private sector and women entrepreneurs. In addition to this powerful (*political*) support, GP generated strong publicity with the participation of a well-known film actress. The idea fitted in the present climate about more gender equity after the rape and murder of a woman in the public transport in the region, which was reflected in a growing *consensus* for this social innovation initiative.

Path 5: Powerful people and leadership

A leading initiator (a person or an NGO, Foundation) is capable to mobilize and inspire and to create synergy or direction (*leadership*). Amidst personnel fluidity and turnover, qualified staff is nonetheless available (*availability of staff*). Eventually infrastructure is either created or the present infrastructure is being used by the initiator and their staff to sustain the social innovation (*infrastructure*).

Box 4.5 One Acre Fund (Kenya)

Core of the social innovation

One Acre Fund (OAF) is a non-profit social enterprise that supplies financing and training to help small farmers grow their way out of hunger and build lasting pathways to prosperity. OAF offers a complete bundle of services, using a market-based model that helps OAF remain financially sustainable and expand to reach more and more farmers every year. The OAF model consists of four steps: 1) Asset-Based Loans. Farmers receive high-quality seeds and fertilizer on credit, and a flexible repayment system; 2) Delivery. OAF delivers inputs to locations within walking distance of every farmer served; 3) Training. Farmers receive training throughout the season on modern agricultural techniques; and 4) Market Facilitation. OAF offers crop storage solutions and teach farmers about market fluctuations, so that they can time crop sales to maximize profits.

Strategy

OAF was established with a two-year start-up grant from the Echoing Green network, working with 40 farmers in a pilot. The initiator, Andrew Youn, an MBA-student at Kellogg School of Management in the USA, is humble and committed to developing personal relationships with his staff and the farmers they work with. The pilot was a deliberate strategy to test the OAF model and to persuade the farmers to change their methods. After receiving awards from Echoing Green, and then the Schwab Foundation and the Skoll Foundation, OAF has had access to social innovators working on a wide range of social issues (in finance, rural research, developmental aid, etc.) and this helped with the embedment and upscaling of their initiative.

Drivers and barriers

OAF started with Andrew Youn's observations of rural farmers in Kenya. He appeared to be an inspiring person and important driving force. Within communities some farmers were doing well, able to feed their families, put aside seed for the next planting season, and sell the excess to create profit, while others were not. The difference between the two types of farmers was their farming methods. Back in the US, he began to put together the idea of One Acre Fund, and wrote a business plan to run a pilot with a group of forty farmers in one of the villages in Kenya. Andrew and his team would provide hybrid seeds, fertiliser and some basic training to the farmers. Fertiliser is hardly used in rural African settings, and the use of the hybrid seeds was almost unknown. The plan was a way of increasing the harvests of rural farmers and their profits enabling them to pull themselves out of poverty. During the pilot the four step model (see above) was developed. The model and pilot have allowed farmers to typically double their profit, and triple their harvests. Bundling the four steps into a comprehensive approach is crucial; single steps alone do not work. The network of participating social innovators, and qualified personnel, offered an infrastructure to roll out the pilot into a sustainable practice.

Outcome/Result

As a result of the pilot the model was adapted to what is now being rolled out across six countries, with pilots in another two (in Africa and Asia). OAF officially started in 2006, serving 600 farmers. Currently OAF serves over 400,000 farmers and more than 3,000 field staff train and support them. With the added services of flexible microfinance loans, training and market access OAF aims to recruit 1 million farmers by 2020. By doing this they will also be able to feed 5 million of their family members and a further 5 million of their neighbours. OAF itself has grown and professionalized as an organization along the way in the past 10-12 years. OAF has a sound business model based on being a paid-for service organization.

Source: Millard et al., 2017.

The OAF initiative for the development of farming in poor African and Asian countries is a good example of Path 5: Powerful people and leadership. The model was developed by an inspiring *leader* with such a strong concept that he could mobilize funds, and inspire his *staff*, as well

as the *resources* for the target group itself, the farmers. In this case the *infrastructure* is the network of social innovators/entrepreneurs and additional funders.

Path 6: Resilient goal-getting

Initiatives set up in contexts of political and economic instability are able to conquer resistance and pitfalls (*overcoming setbacks*), largely due to being capable of mobilizing relevant stakeholders (*initial stakeholder commitment*) like (international) NGOs and representatives of the establishment. Qualified personnel was absent (*absence of availability of staff*). Eventually the initiative becomes rooted and institutionalized (*infrastructure*).

Box 4.6 School for Life (Ghana)

Core of the social innovation

School for Life (SfL) is a Ghanaian NGO, supported by a Danish aid agency (Danida), that since 1995 has run the SfL programme in rural northern Ghana to bring basic literacy education to 8-14 year olds, both girls and boys, from poor families who would otherwise not receive schooling. The 'functional literacy pedagogy' is the basis for the 'complementary basic education' (CBE) approach as it gradually becomes incorporated into the formal educational system. For a given child, SfL runs over nine months to prepare it for entry into the formal education system.

Strategy

The strategy of Danida was to fund initial steps and then gradually reduce funding as SfL learned to stand on its own feet, with the help of others. The social innovation started with an idea phase in 1994-1995 during which schools in 2 districts were founded by the Danida: barefoot teachers were trained and set to work, and village committees established composed of local parents, both women and men. In the proof of concept phase (1996 to early 2000s), additional resources and people were added to increase the number of districts covered to 5 and then 8. This was followed by the first full implementation and scaling phase (early 2000s to 2007), during which expansion both in and of the number of districts climbed steadily in the wake of very favourable independent evaluations which helped to attract non-Danida funding. A short retrenching transition phase followed (2008-2010) when direct Danida funding for 'service delivery' (i.e. the schools, barefoot teachers, materials, etc.) started to reduce the number of Danida-funded districts, and consistently switched instead towards capacity building and advocacy in order for Ghanaians themselves to take over more responsibility. Direct service funding by non-Danida sponsors continued to increase. This in turn provided a platform for the second full implementation and scaling phase (2010-2014) during which Danida further reduced direct service funding down to zero districts by 2015. The strategy eventually resulted in a built up infrastructure.

Drivers and barriers

Critical drivers include quite significant and steady financial resources from donors, conscious efforts to anticipate problems and barriers early and tackle them consistently, and the focus on solidarity, both locally (based on mutual reciprocal relationships and self help) and internationally between Ghana and first Denmark and later other countries. There are also numerous barriers, including lack of funding to become even more widely rolled out, which is also related to governments' traditional mindsets, and the legal and regulatory restrictions faced by non-profit NGOs in Ghana, and the lack of local qualified personnel in the SfL NGO and related organisations. Another important barrier remains lack of teachers both nationally and locally in Ghana. These barriers are coupled with some political resentment towards SfL given it is basically doing the authorities' job very successfully using a radical approach which goes against traditional hierarchies and customs.

Outcome/Result

Highlights include between 1995 and 2014/2015, over 128,000 8-14 year olds (boys and girls) provided with CBE in SfL schools financed by Danida, as well as over 93,000 children financed by other

organisations using the SfL model. In addition, 3,651 'barefoot teachers' were trained using the SfL model, and significant numbers of both children and teachers then graduated into the formal education system, whilst the number of districts covered increased from 2 to over 30. With a national investment of only US\$ 107 per child for Danida-funded projects, these represent very significant tangible impacts.

The number of SfL partners has increased from three in 1994 to at least 17 by 2015. The geography of application, has expanded from a small part of northern Ghana to other parts of northern Ghana as well as to other parts of Ghana. In addition, others have begun to implement SfL in Liberia, Sierra Leone, and adapted versions in India and Kenya.

Source: Millard et al., 2017.

School for Life exemplifies path 6 Resilient goal-getting because, despite of various *barriers* such as not enough teachers, hierarchical and cultural obstacles, a local NGO succeeded in mobilizing (international) *financial support*, find practical solutions (barefoot teachers) and kept on chasing the goal for years leading to the implementation of the social innovation (i.e. preparing children of poor families for participation in the schooling system) successfully in Ghana and several other countries.

5 Conclusions

The research question was which factors contribute to the adoption of social innovation. To determine which factors to include in our research we applied the innovation journey model of Van de Ven and his colleagues (Van de Ven et al., 2008). An additional question thus was whether the innovation journey model, originating from research into product and technological innovation, could be applied to the field of social innovation.

The QCA model showed to have a significant solution consistency and solution coverage. The model consists of six configurations (paths) but none of them is a dominant unique path which leads to adoption of social innovation. Thus:

- › There is no one best way to design an innovation process that enables the adoption of social innovation (equifinality);
- › Social innovators with a similar purpose can follow different strategies (organisational choice); there are no necessary conditions;
- › Successful adoption of social innovation is always constituted out of more than one element that represents the innovation process, as there are no sufficient conditions.

The six configurations are successful strategies for innovation journeys towards the adoption of social innovation; some strategies have better chances than others (they have higher consistency scores). It does not mean that all configurations are valid strategies because out of the possible 128 combinations of variables only these six are the most promising based on the empirical data. Although social innovation strategies represent variation, there are thus patterns, which indicates that the empirical heterogeneity are in fact variations of recurrent themes. Patterns imply that social innovations can be controlled to a certain extent, in that it enables realistic risk management and proactive and preventive mitigation of risks.

If we look at the seven conditional variables we see that 'infrastructure', referring to 'embedded, organized and coupled cooperation between experts, partners, financiers and/or stakeholders to deliver the SI service/product', is present in five of the paths. Apparently, the creation or presence of an infrastructure is often a condition for the adoption of social innovation. Infrastructure is present in the three paths with the highest consistency scores.

Another conclusion can be that the innovation journey model (Van de Ven et al., 1999/2000), originally developed within the context of technological innovation, can be applied to social innovation as well. This is because it is a process model of the innovation process, for which the content of the innovation is to a large extent irrelevant. Our analysis, however, makes no clear distinction in the relevance of the start-up phase, developmental phase and implementation phase as in the original model. The importance of each phase varies per case, so it seems. Nonetheless, it seems fair to say that our results show that processes of social innovations have more agreements than differences compared to technological innovations.

Looking back at other empirical analysis of the 1,005 cases (Howaldt et al., 2016), of which the 82 cases in this article are a subgroup, some conclusions of that study can be put into perspective. Howaldt et al. (2016) claimed that shortages of financial, human, (scientific) knowledge, legal and political resources, and lack of organizational and leadership capabilities, and infrastructural embedment, are barriers causing social innovation to fail in scaling up. Our study shows that despite the presence of some of these barriers social innovations can still be successfully adopted. This stresses the relevance of a complexity perspective, that in different contexts, different combinations of variables are effective strategies, and that the predictability and controllability of social innovation remains limited, but not completely impossible.

6 Discussion

The research has a number of weaknesses. Due to the fact that this is a secondary analysis of cases that were originally studied and reported by others, we could not in detail demarcate differences between cases, and thus less accurately assess anchor values as an input to the QCA procedure. As a consequence, several cases did fit in more than one configuration or path. Another point to mention is that the case studies show a high degree of variation which could not be held constant. The variation in, for instance, the type of social innovations, the number of policy domains, the number of different countries, cultures and languages, etc., may therefore raise questions about the validity of the measured data. On the other hand, the application of QCA resulted in six social innovation strategies that are relatively more robust than 'subjectively' selecting examples from the mapping of 1,005 cases of SI-DRIVE, that are leading to a face value typology of six models (Hochgerner, 2018). Hochgerner concluded from the mapping study (Howaldt et al., 2016) and the in-depth case studies (Ecker et al., 2017) that "some form of co-creation plays a role in all social innovations; additionally one of the effects - impact - of social innovations is empowerment. Therefore *co-creation and empowerment* can be determined as *generic features* of all sorts of social innovation" (Hochgerner, 2018: 218-219; italics in original; underlining added by us). This study shows that not in all cases such 'necessary conditions' were present.

The innovation journey model is a useful process model, but cannot address all issues that are relevant for adoption of social innovation. Future research is needed to better understand how we can structure or design innovation projects and processes to further diminish failure rates. Attention could be paid, for example, to behavioural interaction between stakeholders, target groups (beneficiaries of social innovation) and team members within and outside the project. While no necessary conditions were established in our research, it is still relevant to know more about the weight of each of these variables in different innovation trajectories. Or, in other words, in which circumstances are some variables more important than others? And do they vary when looking at the different phases of initiation, development and implementation (or ending)?

7 Practical implications

The study indicates that while not 'anything goes', there is neither 'one best way'. People tend to simplify complexity in their desire to get crystal clear recommendations about 'what to do?' when there are many options to choose from. What is needed, however, is that people accept, indeed embrace this complexity, and realize that specific skills are required to manoeuvre innovation processes that are unpredictable and uncontrollable to quite some extent (Westley et al., 2014; Van de Ven, 2017). With a mindset that is open, one easily realizes that complexity also offers opportunities to mould the design one desires the most, on the condition that one accepts inevitable path dependencies and externalities that cannot be influenced. Having said that, what are the practical implications of our study to enhance the chances for scaling up a social innovation to the level that it gets adopted?

Despite there is no one best way, it however seems noteworthy to anticipate on how to connect the social innovation initiative with the existing infrastructure and seek for embedment within the network of relevant stakeholders. For instance, make sure that the starting phase incorporates crucial stakeholders and that the plan meets support; during the innovation process consensus among stakeholders is important. Of course, when a case scores positive on all variables, chances for successful adoption are high.

In the absence of broad financial or political support, an initiative can still be successful if few but relevant stakeholders strongly embrace the idea from the beginning, and if the idea is either self-evident or easy to embed in the present infrastructure (path 1 'Filling the gap').

When the plan is sound, it fits in the present infrastructure, and the initiators themselves have sufficient resources at their disposal, then a solid ground among stakeholders is not a requirement for successful adoption in the end (path 2 'Self-reliant empowerment').

In the case that initiators have developed an idea that fits into the present infrastructure and setbacks are absent (or overcome), a strong basis among sponsors seems less crucial than bringing direct involved stakeholders on one line and slowly letting consensus grow (path 3 'Incremental progress').

If an initiative that right from the start gets embedded in a strong network of stakeholders and sponsors, and that is based on an idea for which consensus is being continued and reconfirmed during the developmental process, then the infrastructure is not a determining element for eventual adaptation (path 4 'Power-based design').

A social innovation initiative can also become successful(ly adopted) when a strong group of directly involved persons, executors and/or staff guided by a strong leader, who (together) develop(s) an idea that fits well into the existing infrastructure. Beginning to build up a basis among stakeholders and sponsors is not required (path 5 'Powerful people and leadership').

An initiative that right from the beginning is well anchored into the network of relevant stakeholders is able to overcome setbacks and become successfully adopted, even in the case when staff is fluid, provided there is a good fit into the present infrastructure (path 6 'Resilient goal-setting').

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Appendix 1 Overview: Policy and Practice Fields, Cases, Country and Partner

Policy field education and lifelong learning	No. of cases
Practice field (A): Reduction of educational disadvantages	9
Practice field (B): New learning arrangements, interactive education	6
Practice field (C): Digital inclusion with new and virtual learning environments (for disadvantaged groups)	1
Practice field (D): Quality improvement of the formal education system (teacher recruitment)	1
Practice field (E): Strategic partnership education and economy (transition management, labour market needs)	1
Total number of cases of the practice field	18
Policy field employment	No. of cases*
Practice field (A): Youth unemployment and vulnerable groups	7
Practice field (B): Social entrepreneurship and self-creating opportunities	6
Practice field (C): Workplace innovation & working conditions	3
Total number of cases of the practice field	10
Policy field environment and climate change	No. of cases
Practice field (A): Repairing, reusing and recycling	5
Practice field (B): Alternative and sustainable food production and distribution	4
Practice field (C): Individual case: Social innovation in a smart city context	1
Total number of cases of the practice field	10
Policy field energy supply	No. of cases
Practice field (A): Energy collectives	4
Practice field (B): Local production of energy	1
Practice field (C): Providing examples and inspiration	2
Total number of cases of the practice field	7
Policy field mobility and transport	No. of cases
Practice field (A): Shared car usage	5
Practice field (B): Mobility of vulnerable groups	4
Total number of cases of the practice field	9
Policy field health and social care	No. of cases
Practice field (A): Integrated care	5
Practice field (B): New models of care	4
Practice field (B): E-health/m-health	6
Total number of cases of the practice field	15

Policy field poverty reduction and sustainable development	No. of cases
Practice field (A): Incoming support	4
Practice field (B): Community capacity building	5
Practice field (C): Displacement and refugees	4
Total number of cases of the practice field	13
Total number of cases	18

(Source: Ecker et al., 2017, Table 8: Practice fields and number of cases, selected for the in-depth analysis. Source: In-depth case studies on the policy fields education and lifelong learning, employment, environment and climate change, energy supply, mobility and transport, health and social care, poverty reduction and sustainable development.)

Appendix 2 Cases per policy field (Ecker et al., 2017)

WP4 Policy field education and lifelong learning

Case No.	Name	Country	Partner	QCA code
Practice field (A): Reduction of educational disadvantages				
1.	Tausche Bildung für Wohnen - (TBfW)/ (Exchanging Education for Habitation)	Germany	TUDO	D01TBW01
2.	Talent Scout	Germany	IAT	D02TAS02
3.	PROSA - School Project for Refugees	Austria	ZSI	D03PRO03
4.	Lernhaus/(Learning House)	Austria	ZSI	D04LEH04
5.	Fryshuset/(Youth Centre)	Sweden	IKED	D05FRY05
6.	Educate Me	Egypt	HU	D06EDM05
7.	Hospedaje Estudiantil en Familia/ (Student Lodging with Families)	Bolivia	ECLAC	D07HEF07
8.	Abuelas Cuentacuentos (Storytelling GMs)	Argentina	ECLAC	D08ABC08
9.	Papinotas	Chile	TUDO	D09PAP09
Practice field (B): New learning arrangements, interactive education				
10.	Jumpido/(Gaming for Math)	Bulgaria	ARCF	D10JUM10
11.	Timurovtsy (Young Volunteers) for Information Society	Russia	ISTED RAS	D11TIS11
12.	Scientific and Educational Center (SEC)	Russia	ISTED RAS	D12SEC12
13.	Friluftsfrämjandet/(Outdoor Association)	Sweden	IKED	D13FRI13
14.	Storycrafting	Finland	IKED	D14STO14
15.	Pripovijedaonica (Storytelling)	Montenegro	SIL	D15PRI15
Practice field (C): Digital inclusion with new and virtual learning environments (for disadvantaged groups)				
16.	JAKOM/(assistive communication tool)	Croatia	SIL	D16JAK16
Practice field (D): Quality improvement of the formal education system (teacher recruitment)				
17.	"Renkuosi mokyti"/Teach for Lithuania	Lithuania	KSU	D17REN17
Practice field (E): Strategic partnership education and economy (transition management, labour market needs)				
18.	University graduates and the labour market/APM	Romania	UDG	D18APM18

WP5 Policy field employment

Case No.	Name	Country	Partner	QCA code
Practice field (A): Youth unemployment and vulnerable groups				
1.	Social Impact/Enterprise DGW/Enterability (SIG)	Germany	TUDO	E01SOC19
2.	Software Netzwerke Leer (SNL)	Germany	IAT	E02SNL20
3.	Servicios Sociales Integrados S. Coop (SSI)	Spain	DEUSTO	E03SSI21
4.	Mama Works	Russia	ISTED RAS	E04MAW2 2
5.	Brunel Business Life (BBL)	United Kingdom	BRUNEL	E05BBL23
6.	ISMEK	Turkey	ITU	E06ISM24

7.	Xiezhi Hotel	China	ZJU	E07XIE25
Practice field (B): Social entrepreneurship and self-creating opportunities				
1.	Social Impact/Enterprise DGW/Enterability (SIG)	Germany	TUDO	
3.	Servicios Sociales Integrados S. Coop (SSI)	Spain	DEUSTO	
4.	Mama Works	Russia	ISTED RAS	
7.	Xiezhi Hotel	China	ZJU	
8.	Nova Iskra	Croatia	SIL	E08NOI26
6.	ISMEK	Turkey	ITU	
Practice field (C): Workplace innovation & working conditions				
2.	Software Netzwerke Leer (SNL)	Germany	IAT	
9.	Young Dogs	Netherlands	TNO	E09YOD27
10.	Media Group Limburg (MGL)	Netherlands	TNO	E10MGL28

WP6 Policy field environment and climate change

Case No.	Name	Country	Partner	QCA code
Practice field (A): Repairing, reusing and recycling				
1.	Myrona	Sweden	IKED	T01MYR29
2.	Workshops without frontiers (AFF)	Romania	UDG	T02AFF30
3.	Application of Industrial Ecosystems Principles to Regional Development (ECOREG)	Romania	UDG	T03ECO31
4.	Collection and recycling of hazardous waste	Bulgaria	ARCF	T04CRW32
5.	Repair and Service Centre (RUSZ)	Austria	AIT	T05RUS33
Practice field (B): Alternative and sustainable food production and distribution				
6.	NASF	Iceland	IKED	T06NAS34
7.	ETO	Turkey	ITU	T07ETO35
8.	Scientific and Educational Center (SEC)	Turkey	ITU	T08TAR36
9.	ISS MIOH	Austria	AIT	T09ISS37
Practice field (C): Individual case: social innovation in a smart city context				
10.	dynaklim	Germany	TUDO	T10DYN38

WP7 Policy field energy supply

Case No.	Name	Country	Partner	QCA code
Practice field (A): Energy collectives				
1.	Cloughjordan EcoVillage	Ireland	YF	Y01CEV39
2.	Solar Community Bologna	Italy	LAMA	Y02SCB40
3.	Goienar	Spain	DEUSTO	Y03GOI41
4.	"Qvinnovindar" (Women of Wind Energy)	Sweden	ARCF	Y04QVI42
Practice field (B): Local production of energy				
5.	Solar powered irrigation system	Egypt	HU	Y05SOL43
Practice field (C): Providing examples and inspiration				
6.	Model Region Thayaland	Austria	AIT	Y06MRT44
7.	Energy lady and energy kid	Turkey	ITU	Y07ELK45

WP8 Policy field mobility and transport

Case No.	Name	Country	Partner	QCA code
Practice field (A): Shared car usage				
1.	Aha!Car	Bulgaria		M01AHA46
2.	Liftshare.com	United Kingdom		M02LIF47
3.	My Wheels	Netherlands		M03MYW48
4.	CARUSO	Austria		M04CAR49
5.	Uber	USA/Europe/ Worldwide		M05UBE50
Practice field (B): Mobility of vulnerable groups				
6.	Heimwegtelefon (phone line for people walking alone at night)	Germany		M06HEI51
7.	She Taxi	India		M07SHE52
8.	MOOSDORF Dorfmobil (car service for people from a village area)	Austria		M08MOO53
9.	Childe in a chair in a day	United Kingdom		M09CHI54

WP9 Policy field health and social care

Case No.	Name	Country	Partner	QCA code
Practice field (A): Integrated care				
1.	Social geriatric Centre: 'Protection'	Russia	ISTED RAS	H01PRO55
2.	Family Hall	Austria	AIT	H02FAM56
3.	Physical activity on prescription	Sweden	IKED	H03PHY57
4.	Healthy Kinzigtal	Austria	IAT	H04KIN58
5.	Better Together in North Amsterdam	Netherlands	TNO	H05BET59
Practice field (B): New models of care				
6.	Self-managed dialysis	Sweden	IKED	H06SMD60
7.	voluntary teams of elderly service	China	ZU	H07VOL61
8.	House of Michele	Italy	LAMA	H08HOM62
9.	Khethimpilo	South Africa	UCT	H09KHE63
Practice field (C): E-health/m-health				
10.	mothers2mothers Mom Connect	South Africa	UCT	H10MOT64
11.	LIFEtool	Austria	AIT	H11LIF65
12.	Care	Russia	ISTED RAS	H12CAR66
13.	Vitaever	Italy	LAMA	H13VIT67
14.	Doc Ready	Great Britain	YF	H14DOC68
15.	Smart Elderly Care	China	ZU	H15SEC69

WP10 Policy field poverty reduction and sustainable development

Case No.	Name	Country	Partner	QCA code
Practice field (A): Incoming support				
1.	Strengthening Popular Finances (SPF)	Ecuador	CEPAL	P01SPF70
2.	Self-relieved Production (SRP)	China	ZIU	P02SRP71
3.	Yomken - 'It's possible'(Yomken)	Arab countries	HELIO	P03YOM72
4.	One Acre Fund (OAF)	East Africa	UCT	P04OAF73
Practice field (B): Community capacity building				
5.	SEKEM Development Foundation' (SEKEM)	Egypt	HELIO	P05SEK74
6.	Kavar Basin Rural Development (Kavar)	Turkey	ITU	P06KAV75
7.	AgroSolidarity (AgroSolidarity)	Colombia	SOMOS	P07AGS76
8.	Dignity & Designs (Jan Sahas) (D&D)	India	TATA	P08DAD77
9.	School for Life (SfL)	Ghana	UBRUN	P09SFL78
Practice field (C): Displacement and refugees				
10.	Scattered hospitality (SH)	Italy	LAMA	P10SCH79
11.	Taste of Home (ToH)	Croatia	SIL	P11TOH80
12.	Learning Circles for change and innovation in displacement situations (LC)	Colombia	SOMOS	P12LEC81
13.	La bagagerie Mains Libres (Luggage Handsfree)	France	UBRUN	P13LUG82

Appendix 3 Tables of the QCA research

Table A3.1 Mean score for the 82 cases on every variable, including the total average (uncalibrated raw scores)

Slinitiative82	Agest1	Bplan2	Cset3	Dshif4	Epart5	Flead6	Ginfr7	HadopO	Totaal
D01TBW01	2.666667	3.166667	4.666667	4	4.666667	4.333333	3.333333	2.166667	3.47619
D02TAS02	4.666667	4.333333	3.333333	5	5	4.666667	5	4.166667	4.690476
D03PRO03	4.333333	4	4.333333	4.333333	4.333333	3.666667	4.166667	3.833333	4.095238
D04LEH04	5	4.333333	3	3	2.5	3.5	3.666667	3.666667	3.666667
D05FRY05	4.166667	4	3.333333	4.666667	3.666667	5	5	5	4.5
D06EDM05	4.5	3.833333	3.666667	3.833333	4.333333	4.666667	4.5	4	4.238095
D07HEF07	4.666667	4.666667	3.5	4.333333	4.666667	4.166667	5	4	4.5
D08ABC08	4	4	3	4.5	5	4.166667	4.666667	5	4.47619
D09PAP09	3.833333	4.833333	3.666667	3.333333	4.166667	3.666667	4	4.166667	4
D10JUM10	4.666667	4.166667	4.333333	4.333333	4	4.666667	4.5	4.5	4.404762
D11TIS11	4.666667	4.666667	3	4.5	3.5	4.333333	4.666667	4.666667	4.428571
D12SEC12	4.666667	5	3.333333	4.166667	4.333333	4.166667	4.666667	4	4.428571
D13FRI13	3	3.333333	3.833333	4.166667	4.666667	3.5	4.5	4	3.880952
D14STO14	3.333333	3.333333	3.166667	4	4.333333	3.833333	4	3.666667	3.785714
D15PRI15	3	3	2.833333	3	2.833333	2.666667	2	2.166667	2.666667
D16JAK16	1.666667	2.666667	2.666667	2.666667	2.666667	2.666667	1.666667	2	2.285714
D17REN17	3.166667	3.333333	4.5	3.833333	4	4.166667	3.666667	3.166667	3.619048
D18APM18	4.333333	3.666667	2.5	3.333333	4.333333	2.666667	3	2	3.333333
E01SOC19	3.5	3.5	4.666667	4.333333	3.333333	4.5	4.833333	4.833333	4.119048
E02SNL20	3.5	4.5	3.333333	4.5	3.166667	4.5	3.833333	3.333333	3.904762
E03SSI21	4.666667	4.666667	3.833333	3.5	4.166667	4.833333	4	4.166667	4.285714
E04MAW22	3.5	3.666667	3.5	4	2.833333	4.166667	3.5	3.833333	3.642857
E05BBL23	3.666667	3.333333	3.666667	3.666667	4	4	3.5	3	3.595238
E06ISM24	4.5	4.666667	3.166667	4.5	3.833333	3.5	4.166667	4.833333	4.285714
E07XIE25	3	3.666667	3.833333	4.5	3	4.666667	4.5	3.166667	3.785714
E08NOI26	3.333333	3.666667	4.5	3	3.833333	3.833333	3.333333	3.166667	3.452381
E09YOD27	4.666667	3	3	4.833333	4.666667	3.333333	3	2.833333	3.761905
E10MGL28	3.5	3.5	3.833333	3.166667	3.166667	4.333333	3.333333	1.833333	3.261905
H01PRO55	3	3	3.833333	3.833333	4	4.5	4.333333	3.666667	3.761905
H02FAM56	4	4.333333	3.5	4.5	4.333333	3.666667	4.666667	3.666667	4.166667
H03PHY57	4.333333	3.666667	3	4.5	4	3.5	4.666667	4.666667	4.190476

Slinitiative82	Agest1	Bplan2	Cset3	Dshif4	Epart5	Flead6	Ginfr7	HadopO	Totaal
H04KIN58	4.833333	3.666667	3.5	4	3.666667	4	4.833333	3.5	4.071429
H05BET59	3.5	3.666667	3.666667	3.333333	3.666667	3.333333	3.5	2.333333	3.333333
H06SMD60	4.666667	4.833333	3.333333	4.666667	4.666667	4.333333	4.833333	5	4.714286
H07VOL61	3.5	3.666667	3.666667	4	3.333333	3.666667	3.666667	3	3.547619
H08HOM62	4	3.666667	3.333333	4.333333	3.666667	3.333333	3.166667	2.166667	3.47619
H09KHE63	3.333333	4.333333	4.166667	4	3.666667	4.833333	2.666667	4.5	3.904762
H10MOT64	5	5	3.833333	4.833333	3.333333	4	4.833333	4	4.428571
H11LIF65	4.666667	4.666667	2.833333	4	3.833333	3.333333	4.166667	4.5	4.166667
H12CAR66	4.333333	4.666667	2.666667	4.666667	3.5	4.333333	4.333333	4.5	4.333333
H13VIT67	4	3.666667	3.5	3.833333	4.166667	3.333333	3.5	3.833333	3.761905
H14DOC68	4.333333	4	3.666667	3.666667	3.333333	3	2.666667	3	3.428571
H15SEC69	4.166667	4.333333	3.5	4.5	4	4.333333	4	4	4.190476
M01AHA46	2.666667	2.833333	4	3	3.5	3	3.333333	1	2.761905
M02LIF47	3.666667	3.166667	4.333333	3.666667	3.833333	4.5	4.5	3.833333	3.880952
M03MYW48	3.5	2.833333	3.833333	3.666667	3.833333	3.333333	3.5	3	3.380952
M04CAR49	3.833333	3.833333	4.166667	4	3.5	4.333333	3.666667	3.166667	3.761905
M05UBE50	5	3.833333	4.666667	3.666667	4.333333	3	5	3.833333	4.095238
M06HEI51	3.333333	2.666667	4.833333	4.166667	3.333333	3.5	3.166667	3.333333	3.357143
M07SHE52	5	4.666667	3.666667	5	4.333333	4.666667	4.666667	4.333333	4.666667
M08MOO53	4.333333	4.333333	3	4.666667	4.833333	4	3.333333	3.666667	4.166667
M09CHI54	4.666667	4.5	3	4.666667	4.166667	4.333333	4.166667	4.5	4.428571
P01SPF70	3.833333	4.333333	3.333333	4	3.333333	3.166667	5	4.666667	4.047619
P02SRP71	4.666667	4.666667	3.166667	3.333333	3.333333	3.666667	4.666667	3.333333	3.952381
P03YOM72	3.5	3.166667	3.333333	3.333333	3	3.666667	3.5	3.166667	3.333333
P04OAF73	3.666667	3.833333	4	4.166667	4.5	4.166667	4.833333	4.833333	4.285714
P05SEK74	4.166667	4.166667	4.666667	3.166667	3.333333	4.833333	4.5	4.5	4.095238
P06KAV75	4.166667	4.5	3.166667	3.666667	3.666667	3.166667	3.833333	3.833333	3.833333
P07AGS76	3.333333	3.833333	3.5	2.5	2.666667	2.166667	4.5	4.333333	3.333333
P08DAD77	4.333333	4.333333	4.166667	3.666667	2.666667	4.5	3.5	3	3.714286
P09SFL78	4	4.166667	4.333333	3.666667	2.666667	3.166667	4.333333	4.666667	3.809524
P10SCH79	4.333333	4.333333	3	3.666667	3	2.666667	3.333333	3.333333	3.52381
P11TOH80	3.5	3	3.666667	3.333333	3	2.666667	2	1.833333	2.761905

Slinitiative82	Agest1	Bplan2	Csetb3	Dshif4	Epart5	Flead6	Ginfr7	HadopO	Totaal
P12LEC81	3.333333	4.5	4.333333	3.833333	3.833333	4	4.833333	4.333333	4.095238
P13LUG82	4.5	4.166667	3.5	3.833333	3.333333	2.666667	3.333333	1.833333	3.380952
T01MYR29	3.666667	4.333333	2.666667	3.666667	3.5	3	4.333333	4.166667	3.809524
T02AFF30	3.5	3.666667	3.5	3.333333	3.5	3.666667	2.666667	2.833333	3.309524
T03ECO31	3.833333	4.5	3.5	3.666667	3.666667	3.166667	3.5	3.666667	3.714286
T04CRW32	3.833333	4.333333	3.333333	2.5	4	3	3.5	2.666667	3.404762
T05RUS33	4.333333	4.333333	4.333333	2.333333	3.166667	3.333333	3	2.333333	3.261905
T06NAS34	3.333333	3.166667	3.833333	4	4	4.666667	3.666667	4	3.833333
T07ETO35	4.5	4.5	3.333333	3.166667	3	3	4.166667	3	3.619048
T08TAR36	3.333333	2.666667	4.5	2.5	3.5	4.833333	4.333333	4.333333	3.642857
T09ISS37	3.666667	3.666667	3.666667	3.666667	3.5	4.5	4.5	3.166667	3.809524
T10DYN38	4.5	3.666667	4	2.333333	3	4.166667	2.166667	2.5	3.190476
Y01CEV39	4.333333	4.333333	4.333333	3.833333	4.333333	3.5	4.333333	2.833333	3.928571
Y02SCB40	4.333333	4.666667	2	4.333333	4.333333	4.333333	4.333333	3.5	4.261905
Y03GOI41	2.666667	3	4	4.666667	4	3.666667	4.333333	3.333333	3.666667
Y04QVI42	3.166667	3.333333	3	4.333333	3.333333	4.333333	2.333333	2.166667	3.285714
Y05SOL43	4.666667	4.333333	1.666667	3.166667	3.666667	2.833333	3.166667	2	3.404762
Y06MRT44	4.666667	5	2.666667	4.333333	4.666667	4.333333	5	5	4.714286
Y07ELK45	4.666667	4.666667	2.333333	4.666667	4.666667	4.666667	4	4.333333	4.52381

Table A3.2 Calibrated scores of independent and outcome variables of all 82 cases

Path	Slinitiative82	Agest1c	Bplan2c	Csetb3c	Dshif4c	Epart5c	Flead6c	Ginfr7c	HadopOc	Cases in 1, 2 or 3 paths^	HadopO	*
1	D01TBW01	0.00	0.01	1.00	0.64	0.99	0.95	0.05	0.00		2,166667	
	D02TAS02	0.98	0.88	0.18	1.00	1.00	1.00	1.00	0.91	3,4,5	4,166667	
	D03PRO03	0.88	0.51	0.99	0.95	0.95	0.22	0.73	0.68	4	3,833333	
	D04LEH04	1.00	0.88	0.01	0.01	0.00	0.11	0.18	0.51		3,666667	X
	D05FRY05	0.73	0.51	0.18	1.00	0.49	1.00	1.00	1.00	3,4	5	
	D06EDM05	0.95	0.27	0.73	0.39	0.95	1.00	0.95	0.82	1,5	4	
	D07HEF07	0.98	0.98	0.51	0.95	0.99	0.86	1.00	0.82	4,5	4	
	D08ABC08	0.51	0.51	0.01	0.99	1.00	0.86	0.98	1.00	3,4,5	5	
	D09PAP09	0.27	0.99	0.73	0.05	0.91	0.22	0.51	0.91	2	4,166667	
10	D10JUM10	0.98	0.73	0.99	0.95	0.82	1.00	0.95	0.98	4,5	4,5	
	D11TIS11	0.98	0.98	0.01	0.99	0.18	0.95	0.98	0.99	3,4	4,666667	
	D12SEC12	0.98	1.00	0.18	0.86	0.95	0.86	0.98	0.82	3,4,5	4	
	D13FRI13	0.00	0.02	0.88	0.86	0.99	0.11	0.95	0.82		4	X
	D14STO14	0.02	0.02	0.05	0.64	0.95	0.39	0.51	0.51	3	3,666667	
	D15PRI15	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00		2,166667	
	D16JAK16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		2	
	D17REN17	0.01	0.02	1.00	0.39	0.82	0.86	0.18	0.10		3,166667	
	D18APM18	0.88	0.12	0.00	0.05	0.95	0.00	0.01	0.00		2	
20	E01SOC19	0.05	0.05	1.00	0.95	0.05	0.99	0.99	0.99		4,833333	X
	E02SNL20	0.05	0.95	0.18	0.99	0.01	0.99	0.32	0.18		3,333333	
	E03SSI21	0.98	0.98	0.88	0.11	0.91	1.00	0.51	0.91	5	4,166667	
	E04MAW22	0.05	0.12	0.51	0.64	0.00	0.86	0.10	0.68		3,833333	X
	E05BBL23	0.12	0.02	0.73	0.22	0.82	0.64	0.10	0.05		3	
	E06ISM24	0.95	0.98	0.05	0.99	0.68	0.11	0.73	0.99	3,4	4,833333	
	E07XIE25	0.00	0.12	0.88	0.99	0.00	1.00	0.95	0.10		3,166667	
	E08NOI26	0.02	0.12	1.00	0.01	0.68	0.39	0.05	0.10		3,166667	
	E09YOD27	0.98	0.00	0.01	1.00	0.99	0.05	0.01	0.02		2,833333	
H01PRO55	E10MGL28	0.05	0.05	0.88	0.02	0.01	0.95	0.05	0.00		1,833333	
	H01PRO55	0.00	0.00	0.88	0.39	0.82	0.99	0.88	0.51	5	3,666667	

Path	Slinitiative82	Agest1c	Bplan2c	Csetb3c	Dshif4c	Epart5c	Flead6c	Ginfr7c	HadopOc	Cases in 1, 2 or 3 paths^	HadopO	*
30	H02FAM56	0.51	0.88	0.51	0.99	0.95	0.22	0.98	0.51		3,666667	X
	H03PHY57	0.88	0.12	0.01	0.99	0.82	0.11	0.98	0.99	1,3	4,666667	
	H04KIN58	0.99	0.12	0.51	0.64	0.49	0.64	0.99	0.32	1,6	3,5	
	H05BET59	0.05	0.12	0.73	0.05	0.49	0.05	0.10	0.00		2,333333	
	H06SMD60	0.98	0.99	0.18	1.00	0.99	0.95	0.99	1.00	3,4,5	5	
	H07VOL61	0.05	0.12	0.73	0.64	0.05	0.22	0.18	0.05		3	
	H08HOM62	0.51	0.12	0.18	0.95	0.49	0.05	0.02	0.00		2,166667	
	H09KHE63	0.02	0.88	0.98	0.64	0.49	1.00	0.00	0.98		4,5	X
	H10MOT64	1.00	1.00	0.88	1.00	0.05	0.64	0.99	0.82	4,6	4	
	H11LIF65	0.98	0.98	0.00	0.64	0.68	0.05	0.73	0.98	3,4	4,5	
	40	H12CAR66	0.88	0.98	0.00	1.00	0.18	0.95	0.88	0.98	3,4	4,5
H13VIT67		0.51	0.12	0.51	0.39	0.91	0.05	0.10	0.68		3,833333	X
H14DOC68		0.88	0.51	0.73	0.22	0.05	0.01	0.00	0.05		3	
H15SEC69		0.73	0.88	0.51	0.99	0.82	0.95	0.51	0.82	4,5	4	
M01AHA46		0.00	0.00	0.95	0.01	0.18	0.01	0.05	0.00		1	
M02LIF47		0.12	0.01	0.99	0.22	0.68	0.99	0.95	0.68	5	3,833333	
M03MYW48		0.05	0.00	0.88	0.22	0.68	0.05	0.10	0.05		3	
M04CAR49		0.27	0.27	0.98	0.64	0.18	0.95	0.18	0.10		3,166667	
M05UBE50		1.00	0.27	1.00	0.22	0.95	0.01	1.00	0.68	1	3,833333	
M06HEI51		0.02	0.00	1.00	0.86	0.05	0.11	0.02	0.18		3,333333	
50		M07SHE52	1.00	0.98	0.73	1.00	0.95	1.00	0.98	0.95	4,5	4,333333
	M08MOO53	0.88	0.88	0.01	1.00	0.99	0.64	0.05	0.51	4	3,666667	
	M09CHI54	0.98	0.95	0.01	1.00	0.91	0.95	0.73	0.98	3,4,5	4,5	
	P01SPF70	0.27	0.88	0.18	0.64	0.05	0.02	1.00	0.99	2,3	4,666667	
	P02SRP71	0.98	0.98	0.05	0.05	0.05	0.22	0.98	0.18		3,333333	
	P03YOM72	0.05	0.01	0.18	0.05	0.00	0.22	0.10	0.10		3,166667	
	P04OAF73	0.12	0.27	0.95	0.86	0.98	0.86	0.99	0.99	5	4,833333	
	P05SEK74	0.73	0.73	1.00	0.02	0.05	1.00	0.95	0.98	6	4,5	
	P06KAV75	0.73	0.95	0.05	0.22	0.49	0.02	0.32	0.68		3,833333	X
	P07AGS76	0.02	0.27	0.51	0.00	0.00	0.00	0.95	0.95		4,333333	X

Path	Slinitiative82	Agest1c	Bplan2c	Csetb3c	Dshif4c	Epart5c	Flead6c	Ginfr7c	HadopOc	Cases in 1, 2 or 3 paths^	HadopO	*
60	P08DAD77	0.88	0.88	0.98	0.22	0.00	0.99	0.10	0.05		3	
	P09SFL78	0.51	0.73	0.99	0.22	0.00	0.02	0.88	0.99	6	4,666667	
	P10SCH79	0.88	0.88	0.01	0.22	0.00	0.00	0.05	0.18		3,333333	
	P11TOH80	0.05	0.00	0.73	0.05	0.00	0.00	0.00	0.00		1,833333	
	P12LEC81	0.02	0.95	0.99	0.39	0.68	0.64	0.99	0.95	2,5	4,333333	
	P13LUG82	0.95	0.73	0.51	0.39	0.05	0.00	0.05	0.00		1,833333	
	T01MYR29	0.12	0.88	0.00	0.22	0.18	0.01	0.88	0.91	2	4,166667	
	T02AFF30	0.05	0.12	0.51	0.05	0.18	0.22	0.00	0.02		2,833333	
	T03ECO31	0.27	0.95	0.51	0.22	0.49	0.02	0.10	0.51		3,666667	X
	T04CRW32	0.27	0.88	0.18	0.00	0.82	0.01	0.10	0.01		2,666667	
70	T05RUS33	0.88	0.88	0.99	0.00	0.01	0.05	0.01	0.00		2,333333	
	T06NAS34	0.02	0.01	0.88	0.64	0.82	1.00	0.18	0.82		4	X
	T07ETO35	0.95	0.95	0.18	0.02	0.00	0.01	0.73	0.05		3	
	T08TAR36	0.02	0.00	1.00	0.00	0.18	1.00	0.88	0.95		4,333333	X
	T09ISS37	0.12	0.12	0.73	0.22	0.18	0.99	0.95	0.10		3,166667	
	T10DYN38	0.95	0.12	0.95	0.00	0.00	0.86	0.00	0.01		2,5	
	Y01CEV39	0.88	0.88	0.99	0.39	0.95	0.11	0.88	0.02		2,833333	
	Y02SCB40	0.88	0.98	0.00	0.95	0.95	0.95	0.88	0.32	3,4,5	3,5	
	Y03GOI41	0.00	0.00	0.95	1.00	0.82	0.22	0.88	0.18		3,333333	
	Y04QVI42	0.01	0.02	0.01	0.95	0.05	0.95	0.00	0.00		2,166667	
80	Y05SOL43	0.98	0.88	0.00	0.02	0.49	0.00	0.02	0.00		2	
	Y06MRT44	0.98	1.00	0.00	0.95	0.99	0.95	1.00	1.00	3,4,5	5	
	Y07ELK45	0.98	0.98	0.00	1.00	0.99	1.00	0.51	0.95	3,4,5	4,333333	

^cases in more than 1 path (in the cell the path number is indicated); *cases with >.5 for HadopOc but not assigned to any path

Calibration cut-off values

compute: Agest1c = calibrate(Agest1,3.50,4.00,4.50)
compute: Bplan2c = calibrate(Bplan2,3.50,4.00,4.50)
compute: Csetb3c = calibrate(Csetb3,3.17,3.50,4.00)
compute: Dshif4c = calibrate(Dshif4,3.33,3.92,4.33)
compute: Epart5c = calibrate(Epart5,3.33,3.67,4.33)
compute: Flead6c = calibrate(Flead6,3.33,3.92,4.33)
compute: Ginfr7c = calibrate(Ginfr7,3.33,4.00,4.50)
compute: HadopOc = calibrate(HadopO,3.00,3.67,4.33)

Descriptives (after calibration)

Variable	Mean	Std. Dev.	Minimum	Maximum	N	Cases missing
Agest1c	0.5023171	0.4221412	0	1	82	0
Bplan2c	0.4984146	0.4152768	0	1	82	0
Csetb3c	0.5167073	0.4025106	0	1	82	0
Dshif4c	0.5159756	0.3975745	0	1	82	0
Epart5c	0.5047561	0.402402	0	1	82	0
Flead6c	0.5036585	0.4279261	0	1	82	0
Ginfr7c	0.5179268	0.4192407	0	1	82	0
HadopOc	0.4943902	0.4106779	0	1	82	0

Analysis of necessary conditions

Outcome variable: HadopOc

Conditions tested for presence:

	Consistency	Coverage
Agest1c	0.640394	0.630456
Bplan2c	0.689902	0.684674
Csetb3c	0.552217	0.527902
Dshif4c	0.719704	0.690617
Epart5c	0.673399	0.660546
Flead6c	0.682513	0.670945
Ginfr7c	0.815271	0.778457

Conditions tested for absence:

	Consistency	Coverage
~Agest1c	0.447291	0.445535
~Bplan2c	0.390148	0.385495
~Csetb3c	0.563547	0.578801
~Dshif4c	0.400985	0.410179
~Epart5c	0.426847	0.426742
~Flead6c	0.414286	0.413268
~Ginfr7c	0.287192	0.295339

Table A3.3 Truth table of 48 paths

	Agest1c	Bplan2c	Csetb3c	Dshif4c	Epart5c	Flead6c	Ginfr7c	number	HadopOc	raw consist	PRI consist	SYM consist
1	1	1	0	1	0	1	1	3	1	0.973171	0.957198	0.957198
	1	1	0	1	1	0	1	2	1	0.9599	0.920398	0.920398
	1	1	1	1	1	1	1	4	1	0.949533	0.912621	0.912621
	1	1	0	1	1	1	1	8	1	0.933199	0.912351	0.937244
	1	1	0	1	1	1	0	1	1	0.912773	0.825	0.897959
	1	1	1	1	0	1	1	1	1	0.906897	0.773109	0.773109
	1	0	0	1	1	0	1	1	1	0.905303	0.817518	0.817518
	0	1	0	1	0	0	1	1	1	0.903226	0.803279	0.803279
	1	1	1	0	1	1	1	1	1	0.889764	0.756522	0.756522
	0	0	0	1	1	0	1	1	1	0.882096	0.602941	0.602941
	1	1	1	0	0	1	1	1	1	0.870293	0.723214	0.723214
	0	1	1	0	1	1	1	1	1	0.866973	0.758334	0.758333
	0	1	0	0	0	0	1	1	1	0.860465	0.752941	0.752941
	0	0	1	1	1	1	1	1	1	0.858586	0.636364	0.636364
	1	0	1	0	1	1	1	1	1	0.85259	0.640777	0.640777
	1	1	1	1	1	0	1	2	1	0.84127	0.479167	0.479167
	0	0	1	0	1	1	1	2	1	0.823034	0.536765	0.579365
	0	1	1	0	1	0	1	1	1	0.821101	0.7	0.7
	1	1	1	0	0	0	1	1	1	0.810573	0.612613	0.612613
	1	0	1	1	0	1	1	1	1	0.808271	0.457447	0.457447
	1	0	1	0	1	0	1	1	1	0.800848	0.525253	0.553192
22	0	1	1	1	0	1	0	1	0	0.795181	0.518868	0.518868
	0	0	1	0	0	0	1	1	0	0.754513	0.552632	0.552632
	0	0	1	0	0	1	1	2	0	0.724138	0.475983	0.475982
	1	0	1	0	1	0	0	1	0	0.708333	0.289855	0.289855
	0	0	1	1	0	1	1	2	0	0.708163	0.45	0.45
	0	0	1	1	1	0	1	2	0	0.685294	0.43979	0.449198
	0	0	1	1	0	1	0	2	0	0.675676	0.210526	0.210526
	1	1	1	0	1	0	1	1	0	0.673307	0.293103	0.293103
	0	1	0	1	0	1	0	1	0	0.668161	0.186813	0.186813
	0	1	1	0	0	0	0	1	0	0.651341	0.125	0.125

	Agest1c	Bplan2c	Csetb3c	Dshif4c	Epart5c	Flead6c	Ginfr7c	number	HadopOc	raw consist	PRI consist	SYM consist
	0	0	1	1	1	1	0	2	0	0.615591	0.292079	0.292079
	1	1	0	0	0	0	1	2	0	0.598985	0.278539	0.278539
	0	1	0	0	1	0	0	1	0	0.586441	0.152778	0.152778
	0	0	0	1	0	1	0	1	0	0.572727	0.12963	0.12963
	0	0	1	0	0	1	0	1	0	0.4946	0.0965252	0.0965252
	1	0	0	1	0	0	0	1	0	0.493927	0.0740742	0.0740742
	1	1	0	0	0	0	0	4	0	0.48155	0.148485	0.16388
	1	1	1	0	0	1	0	1	0	0.471074	0.051852	0.051852
	1	0	0	0	1	0	0	1	0	0.46124	0.13125	0.13125
	0	0	1	0	1	1	0	2	0	0.461165	0.149425	0.149425
	1	0	1	0	0	1	0	1	0	0.452107	0.0466667	0.0466667
	1	0	0	1	1	0	0	1	0	0.448387	0.0999999	0.0999999
	0	0	1	1	0	0	0	2	0	0.431635	0.0577779	0.0588236
	0	0	1	0	1	0	0	2	0	0.35012	0.0622837	0.0622837
	1	1	1	0	0	0	0	3	0	0.338667	0.0424711	0.0424711
	0	0	1	0	0	0	0	4	0	0.277487	0.0258824	0.0258824
48	0	0	0	0	0	0	0	3	0	0.221105	0.00641025	0.00641025
								82				

Model: HadopOc = f(Agest1c, Bplan2c, Csetb3c, Dshif4c, Epart5c, Flead6c, Ginfr7c)
 Algorithm: Quine-McCluskey

PARSIMONIOUS SOLUTION

frequency cutoff: 1

consistency cutoff: 0.800848

	Raw coverage	Unique coverage	Consistency
Agest1c*~Bplan2c*Ginfr7c	0.178818	0.0140394	0.857143
~Agest1c*Bplan2c*Ginfr7c	0.203448	0.0406404	0.907692
~Csetb3c*Dshif4c*Ginfr7c	0.41404	0.0162561	0.922106
Agest1c*Bplan2c*Dshif4c	0.468719	0.0490147	0.865
Epart5c*Flead6c*Ginfr7c	0.425123	0.0635467	0.900365
Agest1c*Csetb3c*~Epart5c*Ginfr7c	0.12266	0.0118226	0.849829
solution coverage: 0.741379			
solution consistency: 0.855357			

* =AND, ~ =negated, indicating the 'absence' of a condition (versus 'presence' in a solution)

1. Cases with greater than 0.5 membership in term Agest1c*~Bplan2c*Ginfr7c: H03PHY57 (0.88,0.99), H04KIN58 (0.88,0.32), D06EDM05 (0.73,0.82), M05UBE50 (0.73,0.68)
2. Cases with greater than 0.5 membership in term ~Agest1c*Bplan2c*Ginfr7c: P12LEC81 (0.95,0.95), T01MYR29 (0.88,0.91), P01SPF70 (0.73,0.99), D09PAP09 (0.51,0.91)
3. Cases with greater than 0.5 membership in term ~Csetb3c*Dshif4c*Ginfr7c: D08ABC08 (0.98,1), D11TIS11 (0.98,0.99), H03PHY57 (0.98,0.99), Y06MRT44 (0.95,1), H12CAR66 (0.88,0.98), Y02SCB40 (0.88,0.32), D02TAS02 (0.82,0.91), D05FRY05 (0.82,1), D12SEC12 (0.82,0.82), H06SMD60 (0.82,1), E06ISM24 (0.73,0.99), M09CHI54 (0.73,0.98), H11LIF65 (0.64,0.98), P01SPF70 (0.64,0.99), D14STO14 (0.51,0.51), Y07ELK45 (0.51,0.95)
4. Cases with greater than 0.5 membership in term Agest1c*Bplan2c*Dshif4c: H10MOT64 (1,0.82), D11TIS11 (0.98,0.99), H06SMD60 (0.98,1), M07SHE52 (0.98,0.95), Y07ELK45 (0.98,0.95), D07HEF07 (0.95,0.82), E06ISM24 (0.95,0.99), M09CHI54 (0.95,0.98), Y06MRT44 (0.95,1), D02TAS02 (0.88,0.91), H12CAR66 (0.88,0.98), M08MOO53 (0.88,0.51), Y02SCB40 (0.88,0.32), D12SEC12 (0.86,0.82), D10JUM10 (0.73,0.98), H15SEC69 (0.73,0.82), H11LIF65 (0.64,0.98), D03PRO03 (0.51,0.68), D05FRY05 (0.51,1), D08ABC08 (0.51,1)
5. Cases with greater than 0.5 membership in term Epart5c*Flead6c*Ginfr7c: D02TAS02 (1,0.91), D06EDM05 (0.95,0.82), H06SMD60 (0.95,1), M07SHE52 (0.95,0.95), Y06MRT44 (0.95,1), Y02SCB40 (0.88,0.32), D07HEF07 (0.86,0.82), D08ABC08 (0.86,1), D12SEC12 (0.86,0.82), P04OAF73 (0.86,0.99), D10JUM10 (0.82,0.98), H01PRO55 (0.82,0.51), M09CHI54 (0.73,0.98), M02LIF47 (0.68,0.68), P12LEC81 (0.64,0.95), E03SSI21 (0.51,0.91), H15SEC69 (0.51,0.82), Y07ELK45 (0.51,0.95)
6. Cases with greater than 0.5 membership in term Agest1c*Csetb3c*~Epart5c*Ginfr7c: H10MOT64 (0.88,0.82), P05SEK74 (0.73,0.98), H04KIN58 (0.51,0.32), P09SFL78 (0.51,0.99)

Table A3.4 Cases per path (cases in 2 paths in grey/green, cases in 3 paths in pink/red)

Path	Case ID	Case name (social innovation initiative)	Country
1	H03PHY57	Physical activity on prescription	Sweden
	H04KIN58	Healthy Kinzigal	Austria
	D06EDM05	Educate Me	Egypt
	M05UBE50	Uber	USA/Europe/ Worldwide
2	P12LEC81	Learning Circles for change and innovation in displacement situations (LC)	Colombia
	T01MYR29	Myrona	Sweden
	P01SPF70	Strengthening Popular Finances (SPF)	Ecuador
	D09PAP09	Papinotas	Chile
3	D08ABC08	Abuelas Cuentacuentos (Storytelling GM's)	Argentina
	D11TIS11	Timurovtsy (Young Volunteers) for Information Society	Russia
	H03PHY57	Physical activity on prescription	Sweden
	Y06MRT44	Model Region Thayaland	Austria
	H12CAR66	Care	Russia
	Y02SCB40	Solar Community Bologna	Italy
	D02TAS02	Talent Scout	Germany
	D05FRY05	Fryshuset / (Youth Centre)	Sweden
	D12SEC12	Scientific and Educational Center (SEC)	Russia
	H06SMD60	Self-managed dialysis	Sweden
	E06ISM24	ISMEK	Turkey
	M09CHI54	Childe in a chair in a day	
	H11LIF65	LIFETool	Austria
	P01SPF70	Strengthening Popular Finances (SPF)	Ecuador
	D14STO14	Storycrafting	Finland
	Y07ELK45	Energy lady and energy kid	Turkey
	4	H10MOT64	mothers2mothers Mom Connect
D11TIS11		Timurovtsy (Young Volunteers) for Information Society	Russia
H06SMD60		Self-managed dialysis	Sweden
M07SHE52		She Taxi	India
Y07ELK45		Energy lady and energy kid	Turkey
D07HEF07		Hospedaje Estudiantil en Familia / (Student Lodging with Families)	Bolivia
E06ISM24		ISMEK	Turkey
M09CHI54		Childe in a chair in a day	
Y06MRT44		Model Region Thayaland	Austria
D02TAS02		Talent Scout	Germany
H12CAR66		Care	Russia
M08MOO53		MOOSDORF Dorfmobil (car service for people from a village area)	Austria
Y02SCB40		Solar Community Bologna	Italy
D12SEC12		Scientific and Educational Center (SEC)	Russia
D10JUM10		Jumpido / (Gaming for Math)	Bulgaria
H15SEC69		Smart Elderly Care	China
H11LIF65		LIFETool	Austria
D03PRO03	PROSA - School Project for Refugees	Austria	
D05FRY05	Fryshuset / (Youth Centre)	Sweden	

Path	Case ID	Case name (social innovation initiative)	Country
5	D08ABC08	Abuelas Cuentacuentos (Storytelling GM's)	Argentina
	D02TAS02	Talent Scout	Germany
	D06EDM05	Educate Me	Egypt
	H06SMD60	Self-managed dialysis	Sweden
	M07SHE52	She Taxi	India
	Y06MRT44	Model Region Thayaland	Austria
	Y02SCB40	Solar Community Bologna	Italy
	D07HEF07	Hospedaje Estudiantil en Familia / (Student Lodging with Families)	Bolivia
	D08ABC08	Abuelas Cuentacuentos (Storytelling GM's)	Argentina
	D12SEC12	Scientific and Educational Center (SEC)	Russia
	P04OAF73	One Acre Fund (OAF)	East Africa
	D10JUM10	Jumpido / (Gaming for Math)	Bulgaria
	H01PRO55	Social geriatric Centre: 'Protection'	Russia
	M09CHI54	Childe in a chair in a day	
	M02LIF47	Liftshare.com	
	P12LEC81	Learning Circles for change and innovation in displacement situations (LC)	Colombia
	E03SSI21	Servicios Sociales Integrados S. Coop (SSI)	Spain
	H15SEC69	Smart Elderly Care	China
Y07ELK45	Energy lady and energy kid	Turkey	
6	H10MOT64	mothers2mothers Mom Connect	South Africa
	P05SEK74	SEKEM Development Foundation' (SEKEM)	Egypt
	H04KIN58	Healthy Kinzigtal	Austria
	P09SFL78	School for Life (SfL)	Ghana

Appendix 4 Statistics

Intra-class correlations evaluators

reliability /variables=PO_Totaal, FV_Totaal, WT_Totaal /scale("")=all /statistics=ANOVA /ICC=model(random) type(absolute).

Intraclass Correlation Coefficient

	Intraclass correlation ^b	95% confidence interval		F test with true value 0			
		Lower bound	Upper bound	Value	df1	df2	Sig
Single measures	.733 ^a	.639	.810	9.799	81	162	.000
Average measures	.892	.842	.928	.9.799	81	162	.000

Two-way random effects model where both people effects and measures effects are random.

^a The estimator is the same, whether the interaction effect is present or not.

^b Type A intraclass correlation coefficients using an absolute agreement definition.

Mean, standard deviation and percentile scores

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	25 th	50 th (Median)	75 th
Agest1	82	3.9533	.66886	1.67	5.00	3.5000	4.0000	4.5000
Bplan2	82	3.9451	.62748	2.67	5.00	3.5000	4.0000	4.5000
Csetb3	82	3.5650	.63654	1.67	4.83	3.1667	3.5000	4.0000
Dshif4	82	3.8638	.64530	2.33	5.00	3.3333	3.9167	4.3333
Epart5	82	3.7561	.60925	2.50	5.00	3.3333	3.6667	4.3333
Flead6	82	3.8272	.67660	2.17	5.00	3.3333	3.9167	4.3333
Ginfr7	82	3.9106	.79832	1.67	5.00	3.3333	4.0000	4.5000
HadopO	82	3.5569	.92860	1.00	5.00	3.0000	3.6667	4.3333

The K-S test for normality distribution

One-sample Kolmogorov-Smirnov test

		Agest1	Bplan2	Csetb3	Dshif4	Epart5	Flead6	Ginfr7	HadopO	Totaal
N		82	82	82	82	82	82	82	82	82
Normal Parameters ^{a,b}	Mean	3.9533	3.9451	3.5650	3.8638	3.7561	3.8272	3.9106	3.5569	3.8304
	Std. Deviation	.66886	.62748	.63654	.64530	.60925	.67660	.79832	.92860	.49187
Most Extreme Differences	Absolute	.142	.159	.077	.112	.084	.131	.129	.096	.063
	Positive	.092	.086	.071	.058	.078	.072	.086	.067	.036
	Negative	-.142	-.159	-.077	-.112	-.084	-.131	-.129	-.096	-.063
Test statistic		.142	.159	.077	.112	.084	.131	.129	.096	.063
Asymp. Sig. (2-tailed)		.000 ^c	.000 ^c	.200 ^{c,d}	.013 ^c	.200 ^{c,d}	.001 ^c	.002 ^c	.060 ^c	.200 ^{c,d}

^a Test distribution is Normal.

^b Calculated from data.

^c Lilliefors Significance Correction.

^d This is a lower bound of the true significance.