IMPACT
SOZIALE INNOVATION

Research Paper

What are Social Innovations and how can their Impacts be Measured?

Conceptualizing Innovation Field-Specific Impact Models

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The essentials in brief

Social innovations and their impacts

The *Expertenkommission für Forschung und Innovation* (Commission of Experts for Research and Innovation) states in its most recent report (EFI, 2024) that in order to meet major – and much-intertwined – challenges such as climate change, ageing populations and unequal educational opportunities, social innovations will be needed to spark change at both the individual level and the level of society as a whole. In the context of task-oriented or transformative Research and Innovation policy (R&I policy), the fostering of social innovations and social enterprises – arguably drivers of transformative change processes – can be seen as targeted attempts to address complex challenges, by means of expanding the available range of technology-oriented and market-driven solutions. However, EFI (2024) argues that until now, R&I policy has lacked the reliable and representative data needed for comprehensive mapping of the emergence, diffusion and effect of social innovations. This is what would be needed to facilitate evidence-based R&I policy. This lack is surely due in no small part to the existence of a wide range of competing definitions of "social innovation". This diversity means that the question of how its effects could be systematically recorded and compared remains open.

It is in this context that this research paper proposes a holistic approach to defining and measuring the impact of social innovation (SI). It focuses on the question of how social innovation can be clearly understood as a concept, and how its outcomes and impacts can be measured. The starting point is acknowledging that a key defining element of such innovation is its "intention" to solve social and/or ecological problems. The intention, however, always interacts with the real effects – including with unintended and possibly negative effects.

Understanding social innovation as a concept

The authors of this paper argue for a definition of SI that relates it to the more general concept of innovation in a systematic way, and distinguishes it from other types of innovation. This means repositioning social innovation, using an inclusive understanding of innovation which considers the dynamics of the process of innovation, as well as the diversity of the actors involved. Three definitional framing devices are used to position prevalent concepts of SI. These ask about the "What" (object of innovation) (1); the "Why" (intention) (2); and the "How" (degree of participation) (3) of the innovation in question. Innovations, then, can (1) relate to relatively tangible or intangible objects of innovation; (2) pursue specific goals, be they social, ecological, economic, cultural or other; and (3) be set up and steered to involve varying levels of participation.

Of the three framing devices given here, it is the *intention* associated with an innovation which is the most suitable for connecting with the task of measuring the impact of SIs (-" section **0**), despite all the difficulties that this might throw up. Innovations, then, were classified as SIs if they were motivated by an intention that was mainly social and/or ecological. SIs are innovations that are driven first and foremost by an intention to address social and/or ecological

problems better than established solutions do. This understanding of the concept is just as good a fit for policy discourse within Germany as it is for international academic discourse.

Measuring social innovation's impact

For the purposes of this discussion, the intentions of a given SI should in principle relate to the causal pathways which in evaluation research and practice are generally referred to as "theory of change". A distinction should be drawn between the *intention* and the *real impact,* which can be determined using different methods of evaluation or impact measurement (-Section **0**). What is most important here is that negative and unintended effects are recorded as well as positive or intended ones.

The IOOI model is brought in and adapted to provide a basis for impact measurement. In respect of the distinction between outcomes and impacts, which is important for our present purposes, two common definitions are discussed and then integrated: In terms of outcomes, the differentiation between proximate and distant spatial, temporal and social effects is maintained, but is *not* used to differentiate between outcomes and impacts. In terms of attribution theory, impacts are understood as the part of "outcomes" which can be directly attributed to an SI ("Section **0**). This means that the real effect of an SI (its impact) is a function of the outcomes less the changes that would have occurred anyway, without the intervention ("counterfactual").

The IOOI impact model is generally used to measure the impact of individual interventions, projects and organisations – the relevant ones in this case being those that deploy a social innovation ("SI actors"). From an academic and societal point of view, and especially with regard to evidence-based R&I policy, the assessment of the overall impact of an SI's implementation is of great importance. Starting from the assumption that one individual innovation is rarely what creates social change, but rather groups of innovations or of actors who pursue similar goals, the authors have developed a novel approach of "innovation field-specific effect modelling"", which looks beyond the individual innovation and considers fields of social innovation ("Section **5**). In innovation field-specific effect modelling, IOOI models are complemented with causal chains/pathways and associated indicators, that are relevant for actors in the innovation field in question. By social innovation fields, we understand groups of organisations and other actors which develop, refine or implement SIs that are equivalent in terms of their important characteristics**.** These important characteristics include similarities in the specific combination of innovation object and intention to provide a (novel) solution to a problem ("Section **0**).

The innovation field-specific approach has the advantage of allowing one to partially standardise impact models – i.e. the causal chains and the indicators which underlie them – , which can be combined with individual indicators. These are supplemented by basic indicators that can be applied to all SIs and/or all fields. The "medium-range" approach set out here offers a pragmatic path which reaches a balance between the drawbacks of one-size-fits-all standardisation for all SIs on the one hand, and the ad-hoc development of individual models for individual actors on the other in a logical way. The innovation field-specific effect models are a better fit for the specificities of the wide variety of different SIs than a general SI model would be, but they still offer the advantages of standardisation: SI actors can draw on tried-and-tested models and indicators and use benchmarking data to optimise their own strategy; they provide SI

research with an additional source of data which is also of relevance for evidence-based R&I policy. The development of the models and associated indicators with the participation of the practical actors in their respective fields creates a consistent, central building block of innovation field-specific standardisation.

In summary, this research paper offers a well-grounded and distinct approach to defining and measuring the effects of SIs, which is of academic as well as practical relevance. By taking the socio-ecological intentions behind innovations seriously, this approach helps to visualise the potential of solutions to contemporary social challenges in pursuit of the common good. The application, adaptation and reconfiguring of well-tested methods and of the findings of academic impact measurement makes it possible to create a valid framework for grasping and comprehending the real effects of social innovations. The proposed innovation field-specific approach emphasises the importance of cooperation with practical actors, and it sketches out a targeted, partial standardisation process which offers potentials for both SI actors and for society. This approach also provides a useful impetus for evidence-based policy-making and for sustainable social transformations.

1. Introduction: Towards an expanded understanding of innovation

The **expanded understanding of innovation** now enjoys broad acceptance at the level of academic and political concepts, both internationally and in Germany. Specifically, innovation is no longer seen as just being about new technologies, but also i. a. organisational models or societal norms. Alongside innovations developed by companies and research bodies, participatory innovations are also now in the frame, i.e. innovations developed by persons affected by them, which holds out hope of empowerment. Thirdly, a focus on innovations which are solely oriented towards economic success is no longer seen as sufficient; there is an expectation that innovations should aim at positive changes for society and the environment, and actually bring these about. Increasingly, then, it is seen as important not only to provide a reliable analysis of performance, but also and most importantly to offer a reliable analysis of the positive and negative **impacts** of innovations. Innovations are not an end in themselves: they should offer better solutions to social and ecological problems. This broadening-out of the concept has found its expression in the term **"social innovation"** (SI).

There is still some way to go, however, before this expansive understanding of innovation is diffused out into practice. We still know very little about the rapidly-changing "ecosystem" of social innovations, or about their impact on the economy, society and the environment. Many alternative definitions of SI exist; few attempts have been made to ground SI in theory. There is a lack of systematically collected quantitative and qualitative data beyond case studies. Moreover, high expectations are placed on SI-practicioners to offer proof of their intended effects, while work on practicable standards is still very much ongoing.

In the course of **ISI – Impact of Social Innovations**, a research project spanning two years, the three research institutes **CSI, IAT** and **ifm** have engaged in inter-disciplinary co-operation to develop and refine concepts that will allow us to forge ahead along this path.

This research paper provides a summary of partial results of this research project, which were developed jointly by the authors. The ISI project is focused on developing a dynamic model that can measure the impact of social innovations, including designing an interactive database of indicators (WP3). Another important component was the development of a panel design for SIs at the organisational level (WP4), which could permit ongoing monitoring. These concepts were elaborated using the specially-developed approach of "medium-range" impact models, or "innovation field-specific models". Such models have were developed for the fields of blockchain, digital education, the sharing economy, and communal living (WP2). In the first project phase (WP1), there was a need to develop a conceptual framework that could enable SIs to be situated within the broader concept of innovation in general. Defined like this, the concept of SI had to be linked analytically to the concept of impact in order to clarify the central question: **what are social innovations and how can their impact be measured?** The key findings from this first phase of the project are presented in this paper.

2. The political context of SI: “Grand Challenges” and “Mission-oriented research and innovation policy”

Innovation policy’s preoccupation with the concept of social innovation is shaped by the narrative of **“Grand Challenges”** and **“mission-oriented research and innovation policy”** (abbreviated in English as MOIP, in German as MFIP) (European Commission, 2017; Mazzucato et al., 2020). This means that innovation in general and social innovation (SI) in particular are supposed to contribute to solving acute problems besetting society as a whole. There is an assumption that undirected technological progress on the one hand, and an economy organised solely around growth and profit on the other, will be unable by themselves to face the “Grand Challenges” (and in some cases they even create or intensify them). This means that the question of whether technological and non-technological innovations are eligible for state support, eg. through public procurement (European Commission & RISE, 2018) is in part dependent on their ability to contribute to solving social and ecological problems such as climate change and social inequality.

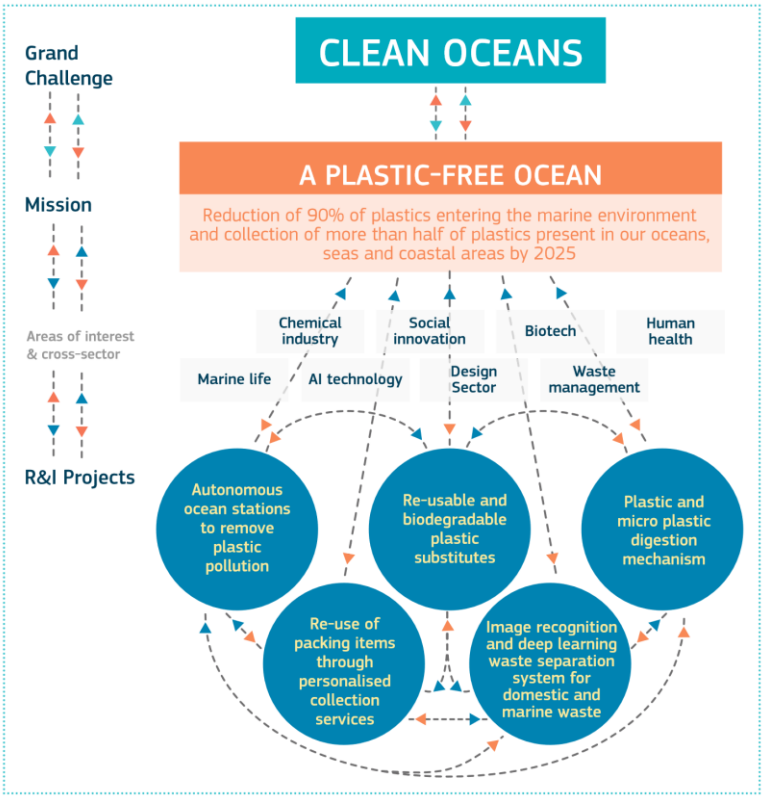
The German Federal Government's **High-Tech Strategy 2025** (BMBF, 2021a) is also much informed by MOIP. The recently published **EFI report** on the High-Tech Strategy (EFI, 2024) confirms the fundamentals of this approach, and in particular emphasises the importance of SI. For many years, the European Union has been funding research projects looking at SI and in 2021 it set up “National Competence Centres for Social Innovation” in member states, whose aim is to reinforce SI in European Social Fund projects. In Germany, too, there is sustained political interest in SI, as indicated, for example, by the **“Society of Ideas”** competition for SI initiatives organised by the Federal Ministry of Education and Research (“Gesellschaft der Ideen”, *Bundesministerium für Bildung und Forschung*, BMBF), by the **“National Strategy for Social Innovation and Social Enterprises”** (abbr: SIGU; BMWK & BMBF, 2023) and by the **“Platform for Social Innovation and Social Enterprises”** launched in 2023.[1] The concept of **MOIP** follows the line of thought of Mariana Mazzucato's concept of innovation and her analysis of modern capitalism which is informed by economic theory and history. She challenges the widespread narrative, or myth, of the economy as the (sole) “creative producer of innovation”, which stands in contradistinction to the “bureaucratic, innovation-stifling state”. She points out the real importance of non-commercial actors in technical innovations such as the smartphone, whose novel components originate in the military or scientific sectors. The same applies to the internet and artificial intelligence, for example, and indeed the development of new medicines and therapies. The state’s underestimated importance in creating innovations presents an argument in favour of greater state intervention in terms of setting the *objectives* of innovations, which should also be aligned with public interests, rather than exclusively serving private economic interests, especially given that the values thereby created are then in part “siphoned off” into the “unproductive” financial sector (Infobox 1). Secondly, it follows that the state should have a more active and assertive role in relation to the *profits* from innovative production. Mazzucato poses the question of why it is primarily the managers and owners of companies who

[1] Translator’s note: this organisation prefers the translation “Social Enterprise” for “*Gemeinwohlorientierte Unternehmen*” and we reproduce their preferred usage here

benefit from innovations – other than the tax levied on them – although the preparatory work and large parts of the risk are in fact borne by the public sector.[2]

MOIP entails a different understanding of the **role of the state**, which sets the direction of innovation instead of leaving the market to choose the innovations which are to prevail. The basic consensus around which this direction-setting is built is to be provided by the UN's sustainability goals (Millennium Development Goals (MDG) / Sustainable Development Goals (SDG)), which are to be broken down into more concrete "missions", which innovation actors from various fields are to tackle: economy, science, civil society, politics. MOIP recognises SI's potential to support these "missions" in conjunction with other factors (see Figure 1).

Figure 1. SI as an element in MOIP, looking at the example of the mission "Plastic-Free Ocean"



Source: (European Commission & RISE., 2018, p. 24)

International discourse around this topic is shaped by the concepts of **mission-oriented research and innovation policy** and **transformative innovation policy** (Haddad et al., 2022; Parks, 2022; Schot & Steinmueller, 2018). These concepts can be summed up together using the term "challenge-oriented innovation policies" (Butzin et al., 2024). Policymakers in Germany have adapted an **understanding of SI** that is in many ways inspired and informed by broader academic discourse, but which also has certain particular characteristics that will be

[2] On the theoretical and historical framework that forms the starting point for Mazzucato's concept of innovation: Mazzucato (2019).

discussed below. The joint **"Ministerial Concept on Social Innovations"** (BMBF, 2021b) which was published by the federal government in 2021, refers to the SI concept of the High-Tech Strategy mentioned above, and expands upon it. This ministerial concept also forms the basis for the SI concept used in the SIGU strategy document which came out recently (BMWK & BMBF, 2023). This is discussed in more detail in Appendix B and it is categorised and analysed using the concept of innovation which is developed here. As demonstrated below, several different understandings of the SI term overlap in the way that the concept is deployed in these political strategy papers, which results in certain contradictions. Several different claims are folded together within the SI concept: (also) looking at non-technological progress, not (only) pursuing economic or commercial goals and turning to people's creativity as a means of bringing new and better things into the world. This results in a **special framing of the term,** which, as might be expected, also reveals a politically-motivated set of priorities.

The Federal Government's High-Tech Strategy also stresses, and explains, the need for a reliable impact measurement system for social innovations (and for social enterprises):

> *"Social innovations and social enterprises aim to use their solutions to impact society. The broadening-out of the funding focus to cover groups of social actors has led to a more systematic and professionalised consideration of the repercussions of social change. Currently, however, there are no generally-accepted indicators and models for accounting for social, ecological, political or cultural impacts. One must conclude that it is not currently possible to simply measure all the various forms of social impacts. Moreover, for social enterprises it is a costly undertaking to measure and express their efficacy, in particular because there are no uniform standards for so doing. (...) Social impact is an elementary component of social innovation and of social enterprises. It is therefore important to render impacts more visible and measurable, by disseminating appropriate standards by which to measure them, and by conveying relevant skills." (BMWK & BMBF, 2023, P. 42)*

The heightened interest currently being shown in the (innovation) policy sphere for **measurements of the effects of SI** can be understood as arising from the MOIP paradigm: according to this view, innovations should no longer be supported irrespective of their goals, but rather should be directed towards serving the common good, as defined by the SDGs first and foremost. Moreover, regardless of how SI may be defined in individual cases, they ought to be targeted and demonstrably effective. Understandably, there is much interest in basing funding decisions for individual SI actors such as social-ecological start-ups on measurable or anticipated effects, and also in identifying innovations which would be worth supporting or scaling up.

Infobox 1. "Expanded" concept of innovation or "restricted innovation"?

In his proposal for a cross-sectoral definition of innovation, Fred Gault draws an illuminating distinction between "restricted" and "unrestricted innovation". In his schema, innovations oriented towards social or ecological intentions and/or effects would be "restricted innovations" (Gault, 2018). But the distinction that Gault proposes overlooks the fact that every innovation activity, including commercial innovation activity is necessarily directed towards some goal or other, even if in individual cases the relevant actors may not be aware of these goals, or may be being guided by institutions or routines. An expanded concept of innovation (Rammert, 2010a), turns this opposition on its head: the old focus on commercially-valuable technologies is a restricted way of looking at innovation, but including non-commercial and non-technological aspects opens and broadens the view. Abstract discussions on the definition of innovation in general and SI in particular have tangible, long-term implications. Amongst other things, they set the parameters for operationalisations based on these definitions, in fields such as national statistics, surveys and panels (see Gault et al., 2023).

3. What does "social innovation" mean? Proposal for an integrated concept of innovation

The ISI project aims to contribute to the basic definitional work around the term "social innovation" and to integrate it with the general concept of innovation (Edwards-Schachter, 2018; Zieliński et al., 2023) – and in spite of all the progress that has been made in this regard, this work is still unfinished:

> *"There is no shared understanding of social innovation (including a clear differentiation from other concepts such as social entrepreneurship or technological innovation). A plethora of vastly diverging subject matters and problem dimensions as well as expectations for resolving them are subsumed under the heading 'social innovation' without making distinctions between different social and economic meanings, the conditions governing its inception, its genesis and diffusion, and without clearly distinguishing it from other forms of innovation." (Howaldt et al., 2019, p. 17)*

The multiplicity of definitions[3] of "social innovation", all of which overlap to some extent but by which very different phenomena can be understood as social innovations (SI), represents a particular challenge for the development of one concept for measuring SIs – after all, a degree of consensus regarding the delimitation of the object to be measured is a **basic prerequisite for any concept of measurement** and for deriving appropriate indicators (Mihci, 2020). In this respect, research on SI impact measurement and indicators is still at an early stage, although important foundations have been laid (Mildenberger & Terstriep, 2023; Terstriep et al., 2023).

[3] On scientific definitions of SI, see (Bataglin & Kruglianskas, 2022; Butzin et al, 2014; Cajaiba-Santana, 2014; Choi & Majumdar, 2015; Dionisio & Vargas, 2020; do Adro & Fernandes, 2020; Domanski & Kaletka, 2017; Edwards-Schachter & Wallace, 2017; Foroudi et al, 2021; Galego et al, 2022; Gillwald & Wissenschaftszentrum Berlin für Sozialforschung, 2000; Godin, 2019; Howaldt & Kaletka, 2022, 2023; Martins et al, 2022; Moulaert, 2015; Moulaert & MacCallum, 2019; Mulgan et al, 2007; Phillips et al, 2015; Pol & Ville, 2009; Rüede & Lurtz, 2012; Satalkina & Steiner, 2022; van der Have & Rubalcaba, 2016; Young Foundation, 20212).

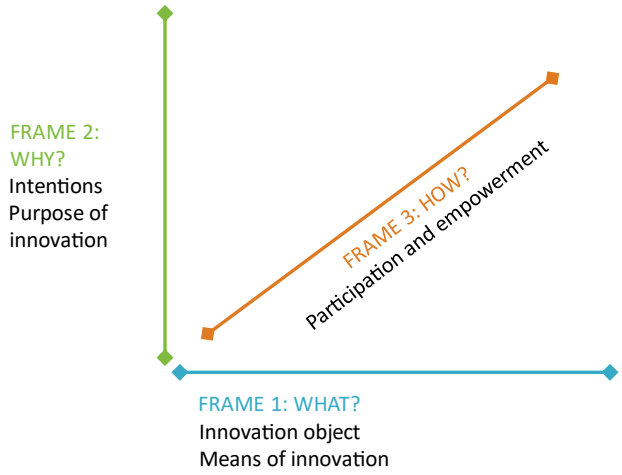
Therefore, the question of defining and delimiting SI is an unavoidable, necessary first step, without which it would be impossible to move on to subsequent steps – chief among which would be the development of an impact-measurement model and indicators, and also a panel design for long-term monitoring of SIs.

What differentiates SI from non-social innovations? Do social, technological, economic, scientific and cultural innovations all represent different "subcategories" of innovation – and if so, what are the essential differences between them (see also Krlev & Terstriep, 2022)? When can we speak of a social "innovation" as opposed to non-innovative social problem-solving approaches? The following framing devices, or "frames", developed as part of the ISI project and in large part based on the current state of SI research (see Appendix A Literature selection), are necessary as a way of bringing sufficient precision to the categorisation of the various ways in which these concepts are used.

Frame 1: The object of innovation

One fundamental distinction when definition SI concerns the *means* or *object* of the innovation, i.e. the question of **"what".** What is the "novelty" that is being brought into the world? In some academic definitions, and in the parlance of public policy, a distinction is made between SI and "technical" or "technological" innovations (TI).

Figure 2. Three ways of framing a definition of SI

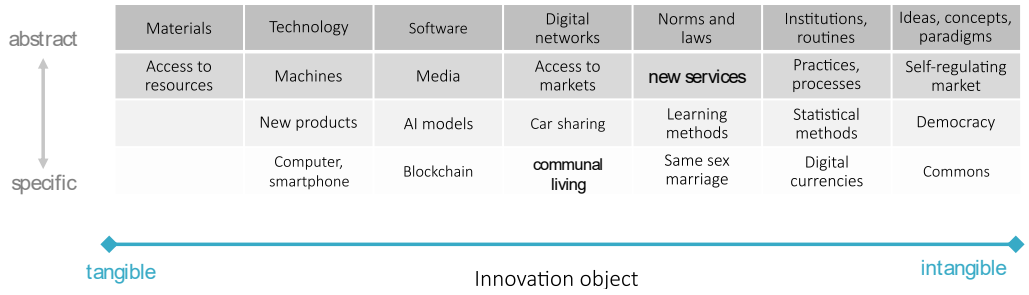


Source: Authors' own presentation

But this distinction is by no means self-evident or necessary (Bund et al., 2015; Geels, 2002; Rammert, 2010a). One could argue that technology is always "social". Over a century ago, Max Weber contended that a machine "can be understood only in terms of the meaning which its production and use have had or were intended to have; a meaning which may derive from a relation to exceedingly various purposes. Without reference to this meaning such an object remains wholly unintelligible. That which is intelligible or understandable about it is thus its relation to human action in the role either of "means" or of "end"; a relation of which the actor

or actors can be said to have been aware and to which their action has been oriented." (Weber 1981, S. 22–23).[4]

Figure 3. Tangible/intangible innovation objects (Frame 1)



Source: Authors' own presentation

If a choice is made to delimit TI from SI, the question nevertheless remains open as to which non-technical innovation objects count as SIs. Some academic definitions that make use of this definitional framing device refer to specific object types. Wolfgang Zapf (1989, S. 178) for example, refers to "new forms of organisation, new regulations, new lifestyles", while Howaldt and Schwarz (2010) refer, more abstractly, to all "reconfigurations of social practices", although they still contrast these to tangible "technical innovations".

Rather than enumerating lists, it is more helpful, in terms of an overarching definitional framing device, to think of this distinction as a continuum running from **tangible** to **intangible innovation objects** (see Figure 3)[5].

This makes it clear that one might conceive of many different types of object to which the concept of "innovation" could, in principle, apply. The development of new materials, via new technologies – including more "tangible" machines on the one hand, but also much in the way of "intangible" software and AI applications – through to things like regulations and laws, which always depend upon tangible elements such as legal texts and agreements, through to "intangible" objects such as new forms of cooperation, new routines – from pandemic-related contactless alternatives to shaking hands, through to voting procedures in parliament. Probably the most intangible innovations of all are those which arise in the realm of ideas (see Infobox 2).

[4] Translated by Edward Maltby for this paper

[5] Edwards-Schachter (2018, p. 66) also raises the distinction between tangibles and intangibles in this connection.

Infobox 2. Ideas as social innovations

The question of whether an object of social innovation is tangible or intangible leads us on to an element whose ramifications may prove confusing. The philosophy of technology has acknowledged that technology is not necessarily constituted materially, even if, for example, VDI guidelines on technology assessment define technology as material systems. As has been said, technology can by and large be understood as a series of steps governed by certain regulations, carried out sequentially. It is not essential that these steps be followed materially, as with clockwork or steam engines. "Technology" can also refer to non-material sequences of actions, including, for instance, making music, breathing exercises, or sporting activities. The term "technology" can be used in all of these contexts. In antiquity, Ovid wrote *Ars Amatoria*, and until the modern age, the term "art" was used to refer both to the production of artefacts and to the artefacts themselves.

So, if it is not necessary for technology to be material, the same must apply to technological innovations. Being intangible is no obstacle to being innovative, so long as the innovation in question proves effective when widely implemented. But what about when the object of innovation is not an algorithmic methodology, but some novel idea which could, for example, have a long-lasting influence on how certain social relationships are understood or structured? One example of this would be the concept of natural law, which came to replace divinely-ordained or traditional law and laid the groundwork for the idea of human rights. It would be inappropriate to speak of "mental constructs" here simply to avoid using the word "idea", purely because "ideas" are usually equated with "inventions" in innovation research. In this field, merely having a new idea is not (yet) considered an innovation. We therefore propose that the term "idea" be adopted to refer to immaterial objects of innovation, so long as the ideas in question have a demonstrable social impact.

Infobox 3. The open question of "social practices"

In this context, a special role is played by the concept of "social practices", which is referred to in both the High-Tech Strategy and in the ministerial concept, where it is described as a typical SI innovation object. "Social innovation includes new social practices and models of organisation that aim to find viable and sustainable solutions to challenges facing society." But what does this mean? In academic terms, the term is notably used in the work of Jürgen Howaldt and his colleagues from the SFS at TU Dortmund (Howaldt & Kaletka, 2022; Howaldt & Schwarz, 2010). In these works, SI is defined as follows: "[i]n 'material' terms, social innovations differ from technological innovations in that their structure is immaterial and intangible. In these cases, the novelty does not occur at the level of technological artefacts but at the level of social practices. A social innovation is an intentional and goal-oriented recombination or reconfiguration of social practices in particular fields of activity or social contexts, set in motion by particular actors or constellations of actors, with the aim of offering better solutions or better means of satisfying certain needs, than currently established practices allow." Work is ongoing to establish a more detailed basis for this concept of SI in the context of sociological practice theory. (Rabadjieva & Zirngiebl, 2023). As a basis for this understanding of practice, sociological practice theory aims to provide a middle way between system theories and theories of action, in that neither the individual nor society (or "structures") can be taken as the starting point, but rather "practices" which change dynamically and yet offer intersubjective stability as a precondition for action. This means that the concept of SI as a "reconfiguration of social practices" is very comprehensive and covers everything from the social dimension of every technology (outside of the material artefact itself) all the way through to (intentional) reconfigurations of institutions and indeed of ideas and values. But "social practice" is not merely one of many objects of innovation to be taken alongside organisational forms and technologies: it lies perpendicular to them, as it is a basic element of all SI, according to the definition of SI proposed by Howaldt and Schwarz (2010).

Examples of technology-based and at-least-partially commercially-oriented SIs – which implies a very broad understanding of SI – are furnished by the study from Blessing et al. (2018). These examples include, amongst others: new app technologies for civic participation (CitizenLab), technology to facilitate emergency calls for people in need of care (CareView), use of buses for

mobile healthcare (MediBus), tactile strips for breast cancer prevention, for use in interventions by blind women (discoveringhands), alterations to food production procedures so as to meet purity requirements in order to lengthen shelf life (FRoSTA), technology to support DIY plastic recycling (PreciousPlastic), and easy-to-repair smartphones (SHIFT). Were SI to be limited to cover (a selection of) intangible objects of innovation, then this term could no longer be used to refer to technological innovations that aim to solve social-ecological problems.

Conclusion: "Social innovation" is often differentiated from "technological" or "technical" innovation and is linked to the innovation object. Sometimes, the term is used to refer in a non-specific way to all non-technical innovation objects, and sometimes it refers to specific, selected types of object only. Rather than "social" and "technological" innovations, it would be more precise to speak of "intangible" and "tangible" innovations, or, more exactly still, innovation objects, when we are using this definitional paradigm.

Frame 2: Purpose of the innovation

The second definitional framing device relates to the **"why?",** i.e. the end in the end-means relationship.

If we take innovation to be a linear process which begins with an invention (or an intervention), and then moves on to diffusion, but is frequently amended in the course of this process (re-invention), then it becomes clear that at least parts of the innovation process are **intentional**[6]. For this reason, **intentionality** is generally a component of academic definitions of innovation, and serves to distinguish this concept from the more general one of "social change", which also includes unintended changes and continuities (Zapf, 2018). Accordingly, the concept of "responsible innovation" encourages innovation and research policy to not only consider retroactive or prospective regulations to avoid negative outcomes, but also to reflect on the "ends" and "motivations" of innovations (Owen et al, 2013).

In this second definitional framing device, the key distinction that is regularly used to define SI is the distinction between "economic" (also known as "business innovation") and "social innovation" (see Infobox 4). If SI is defined as something distinct from economic innovation, the question still remains (very much as with Frame 1) as to which non-economic orientations should count here. Do ecological, scientific, cultural, legal, etc. innovations count as SI? Or do they represent different types of innovation in their own right? Is "social" a distinct type of innovation, on the same level as "economic", "scientific", "political", etc.? If so, how can it be defined?

[6] See Rogers (2003) and Howaldt et al. (2018) on the notion of diffusion in SI.

Infobox 4. "Social" and "*sozial*" – lost in translation

The academic and public-policy discourse on SI in Germany must be placed in international context. The SI research landscape, with its neighbouring and preceding research areas such as "social entrepreneurship", innovation research, civil society and the third sector, welfare state research etc. is influenced by and in constant exchange with international activities, in particular those carried on in the UK, the US, Canada, Australia, Italy, and Portugal, all mostly in the English language. But "social" is understood differently there than a literal translation into German as "*sozial*" might suggest. In German, when we think of "*sozial*" we think of the welfare state (*Sozialstaat*) and social services (*soziale Dienste*); there, the term is much broader and falls somewhere between "*sozial*" and "*gesellschaftlich*". for many authors, "social innovation" also includes *ecological* innovation. Perhaps "*gemeinwohlorientierte Innovation*" [literally, innovation oriented toward the common good] would be a more precise translation into German of "social innovation" – if one wishes to follow the present definitional framing device, that is, or otherwise "*nachhaltige Innovationen*" [literally, sustainable innovations]. But these options in their turn evoke other, stronger connotations (e.g. in the German policy context, "*Gemeinwohlorientierung*" or orientation to the common good, has a formal definition: bodies meeting it are categorised as having "*Gemeinnützigkeit*" or "non-profit status", a specific legal status).

In Germany, these various definitional or conceptual options fall into the different areas of responsibilities of different ministries. In Germany, "*Sozial*" affairs are the responsibility of BMAS [*Bundesministerium für Arbeit und Soziales*, Federal Ministry of Labour and Social Affairs], but the SIGU strategy is a joint project between the BMBF and BMWK [*Bundesministerium für Wirtschaft und Klimaschutz*, Federal Ministry for Economic Affairs and Climate Action], and this status is reflected, for example, in the explicit inclusion of economic actors and the emphasis on the positive economic effects of SI. While the English terms "social entrepreneurship" and "impact investing" fit well within this understanding of SI, charitable organisations, which are particularly important in the "*sozial*" sector in Germany, fall outside it: they are too "*sozial*" for SI because they fall under the departmental responsibility of state social services.

Numerous definitions of SI take into account goal-orientation (Frame 2) in order to grasp what is "social" in SI, and to distinguish it from non-social innovations. This can be done while simultaneously restricting the concept to certain innovation objects (Frame 1), or the concept of SI can be opened up to include all innovation objects, including technological ones. The chief example in this respect is the influential definition proposed by Phills et al. (2008), which explicitly lists a wide variety of types of object. The exclusive criterion here is not the type of innovation object, but strictly the **orientation towards the common good,** in contrast to private good. In this view, SIs are "social" insofar as they are oriented towards the common good or have an effect that works in that direction. By definition, this would rule out innovations intended to maximise the profits of shareholders, partners, etc. This is also reflected in the SIGU's term "*gemeinwohlorientierten Unternehmen*" [generally translated in English as "social enterprises", including here] (BMWK/BMBF, 2023). Such an understanding has consequences: according to this interpretation, "impact start-ups" – i.e. companies that solve social problems while also generating profits – would not be "social" innovations. On the other hand, a new technology developed by public or civil society organisations with a charitable purpose would be a social innovation.

Research into innovation and SI has thrown up several theoretical proposals as to how one might differentiate between "social" innovation and "economic", "political", "cultural" and other types of innovation, and how one might back up these differences with reference to sociological theory. Werner Rammert (2010b) sketched out an exemplary reference for "social"

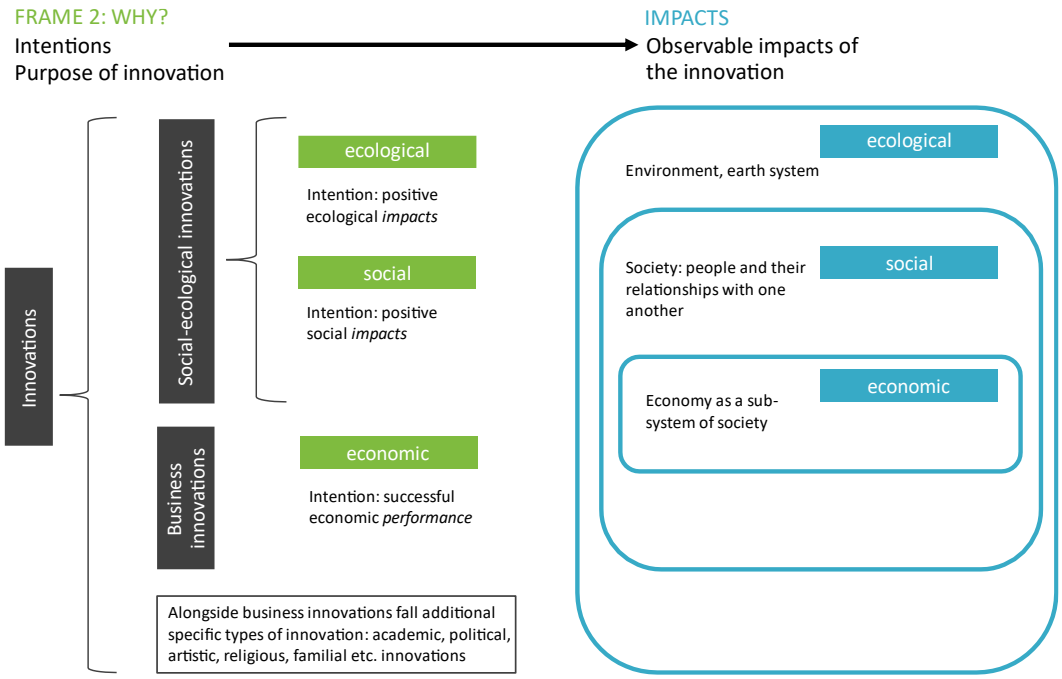
innovations and distinguished this from economic, political and artistic references in system-theoretical terms. On the other hand, Heiskala (2007) uses structuration theory and neo-institutionalism to distinguish between technological, economic, regulatory, normative and cultural structures (plus the natural environment and demographics as structures that are impervious to innovation) and characterises regulatory, normative and cultural structures as SI, whereas technological and economic structures are categorised as "technical-economic" innovations. Another, similar proposal can be found in a working paper by Gillwald (2000), which assumes a "social benefit dimension", but also sees SI as something which can be achieved in other dimensions. None of the concepts mentioned above has yet become established as a theoretical basis for SI research and practice.

Basing the concept of SI on the distinction between the "social" and other spheres of value, or subsystems, necessarily leads to fundamental theoretical questions that sociology has always struggled to answer. Unfortunately, sociological differentiation theory has not yet yielded any definitive conclusions – it does not even offer a conclusive list of relevant subsystems – and it is shaped around the different perspectives of action, system and middle-ground theories (Schwinn, 2011). Many questions therefore remain unanswered in terms of the sociological theoretical foundations of SI research (Zieliński et al., 2023).

Interestingly, it seems that attempts to analyse "innovation" and define SI on the basis of functional subsystems ("economic", "social", "legal", "religious", etc.) are in large part confined to the German-speaking research environment, and internationally such approaches attract much less discussion. Other approaches, including neo-institutionalism (van Wijk et al., 2019) or the concept of "transformative social innovation" (Pel et al., 2020), seem to be more prominent there. In line with the ISI project's pragmatic approach, which is aimed at ensuring compatibility, we propose a model of differentiation which is compatible with international research. This approach is interdisciplinary and considers in particular the perspectives of economics, sociology and ecology. This approach can also be coherently connected with the concept of impact, and with impact measurement (see 0 Intention and effect).

The combination of "ecological", "social" and "economic" corresponds to the fundamental idea of the "triple bottom line" and related concepts (Henriques & Richardson, 2013), i.e. the claim that companies should also evaluate and take into account the social and ecological effects of their activities alongside a conventional profit-and-loss statement. Dealing with economic intentions and effects separately in the SI concept is by no means obligatory or an obvious thing to do. It is done because of the importance of the economy for general development, i.e. for solving current "grand challenges". That being said, the economy is embedded in society, i.e. in the "social" sphere, which is in turn embedded in the broader planetary ecosystem. This realisation that the economy is embedded in society was already expressed i.a. in the influential work "The Great Transformation" (1944) by the economist Karl Polanyi (Polanyi, 2001) and can be found again in the school of theory of "ecological economics", which considers the fact that natural resources are limited (Brand-Correa et al., 2022; Daly, 2012).

Figure 4. Integrated innovation concept



Source: Authors' own presentation

"Business innovations", then, are shaped by the intention of achieving economic success, which in a capitalist market economy is primarily a matter of developing new products and services, and opening up new markets and resources with the intention of making a profit in order to solve the problem of competitiveness on the market, i.e. specific economic problems ("business innovation"). This corresponds to the notion of "innovation" that became predominant during the Second World War and is widely associated with the work of J. Schumpeter. **"Socio-ecological innovations"**, meanwhile, are typically ones associated with the intention of solving problems that affect people, interpersonal relationships and people's natural environment. Socio-ecological innovations, then, go beyond the more narrowly defined concepts of "business innovation" or "economic innovation" (and by analogy: scientific, political, artistic, religious, etc. innovations).

That being said, these boundaries are not always clear-cut and may change over time. Several intentions usually play a role in any specific instance. Successful performance by a company, product or service can be combined with the intention of solving a societal problem – take, for example, the case of developing a new, more efficient wind turbine, which would assist in the expansion of renewable energies, offering a more sustainable solution than environmentally-damaging alternative options. The fact that these different elements can go hand in hand while remaining distinct is indicated in cases where there are conflicting objectives and a choice must be made, e.g. between profitability and social or environmental effects.

In the ISI project, we use the term "social innovation" (SI) to refer to **innovations which are directed by the intention of solving social (=societal) and/or ecological problems better than alternative/currently-existing solutions,** as per the foregoing discussion.

While we differentiate commercially-orientated innovations from SI, but continue to understand them as an important part of the concept of innovation in general, economic impact naturally remains an important sub-category at *the impact level* for SI: Socio-ecologically-orientated innovations have economic outcomes, just as business innovations always have social and ecological consequences which have to be considered (see section 0).

But it is not enough to stop at the level of intentions. As the formulation "better than other solutions" indicates, there is a need to weigh up different possible courses of action. There are many different ways of deciding what is "better". We advocate – as far as possible and reasonable – rational, evidence-based SI practice that is guided by scientific facts. The context for this is that in practice we are always confronted with a dynamic interplay between intention and evidence (knowledge), and these influence each other. Intention and evidence of impacts are therefore inseparably linked within the concept of SI.

Frame 3: Participation

The "classic", narrow understanding of innovation (i.e. technical and material inventions, oriented towards economic benefits and rolled out onto the market) focused in particular on inventions of new products and services that originate from relatively clearly identifiable individuals or groups as their "inventors", which suggests a focus on the interplay between scientific and economic research and development as the starting point for innovations (Godin, 2006). It is only and especially at the next stage, i.e. the stage of the diffusion/spread of the innovation, when the "social" aspect comes into play. This is because it soon becomes clear in the field that social-cultural aspects play a decisive role in, for instance, the acceptance or rejection of new methods or technologies by farmers.

However, the preceding *invention process* can also be thought of as "social" (Edwards-Schachter, 2018; Westley et al., 2017), or, expressed in normative terms: it can be thought of as being democratised. The aim is for the target group(s) / users to be involved in the process of development from the start. Innovations are not intended to be centralised "from above", but to emerge or be brought into being **in a participatory manner,** "from below". This way, innovations could produce new solutions designed in the interests of the people affected and also promote **self-determination** (or "empowerment") as a result of the participatory process (Avelino et al., 2019; BEPA, 2010; Moulaert et al., 2013). Aside from the normative level of this requirement, which will not be discussed further here, this remark is also of analytical interest: Innovations are also "social" in the sense that, apart from the rare case of an individual inventor, innovations normally arise out of social interactions and so in this respect they can be placed on a continuum of more or less "social" innovations, or, more precisely: a continuum running from "participatory" to "centralised" or "non-participatory". In the interests of clarity in defining SI, we could instead speak of participative vs. non-participative innovations (on "ideation" c.f. Young Foundation, 2021/2, p. 12). The degree of participation can vary. It can range from the initiation, (further) development and diffusion of a new solution to a problem by the affected stakeholders themselves (high degree of participation), to the controlled involvement

of potentially affected stakeholders in the development phase, to the mere collection of feedback (relatively low degree of participation; "pseudo-participation").

Conclusion: Innovations can originate from individual commercial companies, from state institutions or from established third-sector organisations without involving users and affected persons in the process (non-participatory innovation). But they can also originate from consumers, citizens, households or informal groups, or at least involve them in a participatory manner (participatory innovation), and this is linked to the hope that the innovation in question will have a "social", i.e. integrating and empowering function for the individuals involved. The question of whether or not "empowerment" really takes place needs to be examined empirically and in retrospect, and it is therefore not a suitable criterion for use in a definition of SI.

Who are the actors in social innovation?

Controversy often arises from the question of which actors should be considered social innovators and which should not. Likely the most sustained attempt to define SI on the basis of sectoral logic (by market, state, civil society), was made as part of the EU project ITSSOIN – at least in that project's initial design phase. The project's central hypothesis was that SIs originate first and foremost in the third sector (Anheier et al., 2017). The project's empirical studies made it possible to differentiate this assumption. In many cases, it was in fact demonstrated that some public actors had played a central role in the development of the SIs under consideration, and cross-sectoral collaboration, including with companies, was of great significance to the development of SIs (Anheier et al., 2019). Consequently, authors of the ITSSOIN project revised and differentiated the original concept. Then and Mildenberger (2022) argue that all three sectors (now defined as market, state, family/community) can create SIs, but civil society as an intermediary sphere between these three areas has a special role to play, and without it, SIs could not come about:

> *"(…) the impulse for a social innovation process (invention, prompt) can originate in any of the sectors and favor any of the functions. However, in the course of the process and especially when it comes to sustaining, scaling, and systemic changes, the other sectors will get involved, and civil society and organizations based on social investment will play a crucial role in mediating the transmission of the idea to society at large (Evers, 2005). Our research on the role of civil society in social innovation has shown that organizations that were crucial for the development of a social innovation are typically closely intertwined with local communities and have a clear social needs orientation (Anheier et al., 2019)." (Then & Mildenberger, 2022, p. 6)*

Civil society therefore has an especially important role to play in both the development and the diffusion of a given SI, and the market and the state cannot easily replace its function.

Examination of specific SIs reveals that they can come from different kinds of actors, including non-profit organisations, informal groups and social movements, businesses and public administration (Wruk, Oberg, Klutt, et al., 2019). However, the fact that SIs resist being assigned to a

specific sector or a specific type of organisation only presents us with a problem if we follow the system-theoretical premises of the *functional differentiation* of "society" into subsystems. From an *action theory perspective* based on the works of Max Weber and others, mutually exclusive value orientations which vary constantly depending on the case at hand are weighed against each other. It follows that it is not at all contradictory to state that profit-oriented organisations can create non-profit innovations. However, because an orientation towards the common good is a guiding value of the third sector, a value which is anchored in that sector through institutional means (e.g. prohibition of profit distribution, non-profit status), it follows that charitable activity is more common in not-for-profit organisations (NPO) than private companies, where, for example, corporate social responsibility activities can only be in conflict with the profitability target to a limited extent, but not permanently and not systematically. In this connection, Anheier et al. (2019, p. 40) say that *"Social innovativeness varies by organisational form and actor involvement in the sense that the properties of third sector organisations and volunteering make its formation particularly likely"*.

Innovations are usually arrived at by means of transferring and adapting what already exists from other areas or use contexts – for example from one country to another, from business to politics, from one language to another, etc. – so that **transfer** itself plays a central role (see e.g. (Rabadjieva & Butzin, 2020). It is therefore no surprise that, in reference to the state, market and third sector, innovations are more apt to result from cooperation between actors from more than one of these sectors than from within a single sector.

SI in the sense of **socio-ecologically orientated innovations** (see Frame 2) can in principle be generated by a wide variety of actors, including by companies. However, depending on the time, place or cultural context, social and ecological orientation (i.e. to the common good) is assigned to particular spheres of values, and to the institutions rooted in them. In the case of today's capitalist, secularised, democratic and functionally-differentiated Germany, for example, the German word "*sozial*" has emerged precisely as response by the state and civil society (part of which being religiously motivated) to the socially (and also ecologically) destructive externalities thrown out by capitalist economic activity. Therefore, innovations which are orientated towards the common good are typically more likely to be found outside of business and most likely of all to arise in civil society and the state. If, on the other hand, we define SI as **intangible innovations**, we arrive at different conclusions in respect of different actors: their nature makes their origins harder to grasp, as becomes clear when considering particularly intangible ideas/concepts/approaches (e.g. "social market economy", "degrowth", "grassroots democracy", "energy transition" etc.), which are most relevant in communicative processes, partly mediated via the media, and make use of existing knowledge. By definition, the **participatory** view of SI (Frame 3) points to an active role being played by innovation stakeholders and therefore posits a completely different type of innovation actor, i.e. consumers, voters, citizens, members, social movements, informal groups, households, etc., in contrast to more institutionalised actors from business, politics or science.

Interim conclusion: Three definitional framing devices – many conceptual choices

The "social" in SI therefore refers – depending on the interpretation of the term – to things which are (1) "intangible", (2) "non-economic" or "non-profit" and/or (3) "participatory", or a combinations of the three. The diversity of these elements and the way in which they overlap and intermingle regularly result in **contradictions** and the suppression of important parts of reality. If, for example, the "social" in SI is understood both as "social" intentions and "social" (non-technological) innovation objects, then technologically-based and simultaneously socially/ecologically-intended innovations are obscured. It would offer greater clarity if we started from a general concept of innovation that was open to different types of innovation objects, end-orientations and degrees of participation.

All the definitional framing devices presented here share the idea that **innovation, generally understood as the ability to work rationally or purposefully towards better solutions to existing problems/challenges, should be freed from a focus on business innovations (themselves often based on technology) and that intangible innovations should be considered as part of innovation. By the same token, participatory innovations, and innovations that are oriented around and impact or effect common-good (or socio-ecological) ends should also be counted as innovations, according to this framing.**

. Concretely, this would also mean no longer leaving "innovation capability" solely to companies, their research and development departments, transfers out of academic research (especially from STEM subjects) into the economic realm, or regarding innovation as simply a matter of new products and services that can be marketed in order to shore up a firm's competitiveness.

ISI definition of innovation and social innovation

We offer the following definitions for the SI concept as used within the ISI project.

- Innovations in general, meaning novel types of innovation objects, from the more tangible, such as materials and machines, to the more intangible, such as organisational forms and ideas. We argue for dropping the **technical/social**, material/immaterial, and tangible/intangible distinctions as bases for defining SIs, and instead propose an assumption that SIs can be made up of innovation objects covering the entire spectrum from tangible to intangible innovations. However, the tangible-intangible spectrum remains a useful concept for describing and distinguishing innovation objects.
- Innovations are always **intentional** and can be based on different kinds of intentions, be they ecological, economic, scientific, religious, etc. or combinations thereof. Intentions may differ from actor to actor, and over time, and they can merge into one another. For the ISI project, we opted for the rough but widely-compatible distinction between ecological/social/economic. However, these are not seen as separate subsystems, but as interwoven and mutually influencing one another. We therefore

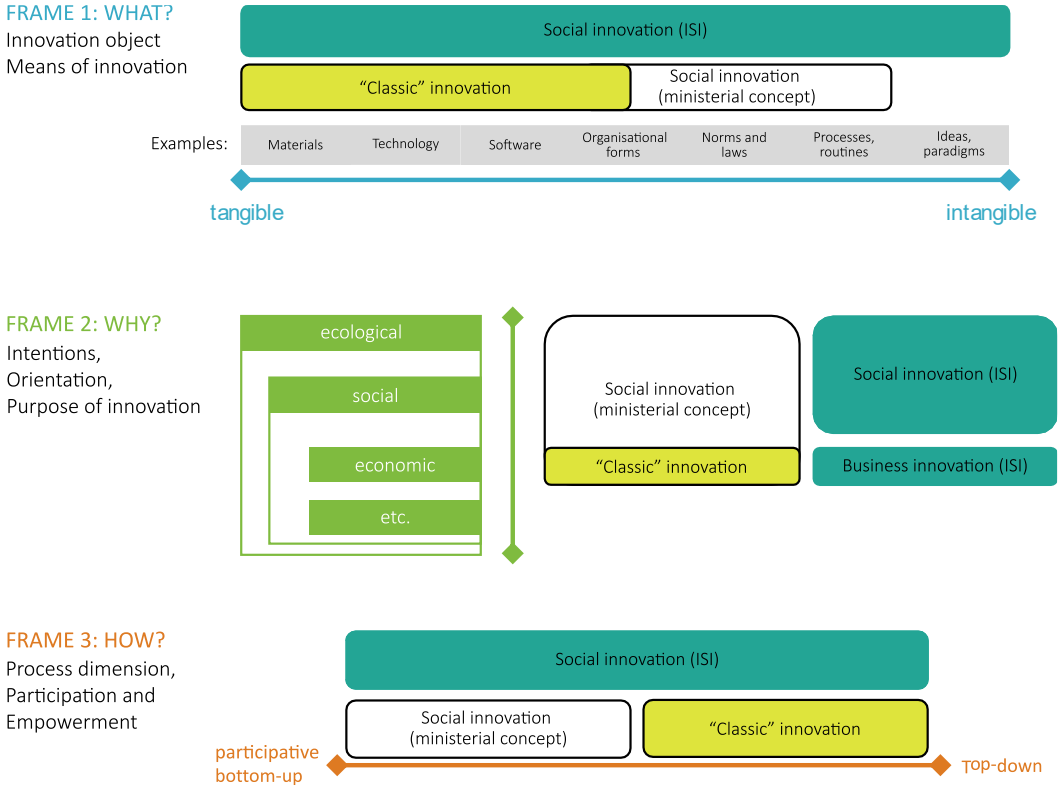
understand "**social innovations**" (more precisely: socially-/ecologically-orientated innovations) as innovations intended to solve problems/challenges in the field of human life and relations, as well as in the human environment, better than available alternatives can. However, we refer to innovations that are intended purely to solve economic, scientific or other tasks in a narrower sense as "business innovations", "scientific innovations", etc.

To a certain extent, the issue of whether a given solution is "better" can and should be tested empirically, i.e. on the basis of data which has been collected and analysed systematically. In this way it should be possible to arrive at evidence-based social innovation. Following this ambition, the level of intentions is inseparable from, and interacts with, the level of **impacts**. Intention and impact, however, must be kept separate as analytical concepts. This interplay is similar to that between theory and empirical findings in science.

- Thirdly, innovations as **processes** can be created by certain individual actors on behalf of other actors (non-participative) or from affected stakeholders themselves (participative). Here too, we have decided that the concept of social innovation should embrace the whole of this spectrum. We bear in mind the hypothesis that participatory innovations can make a special contribution to solving social challenges, and that a co-creative process strengthens "problem ownership", i.e. the assumption of responsibility for an issue by the people who are involved in it.

It is possible to use only individual framing devices to define SI as a term (e.g. SI = non-technological innovations) or to combine several framing devices. For the ISI project, we use the second Frame, and we remain open to using other Frames. Figure 5 illustrates this understanding.

Figure 5. Classifying distinctions made within innovation concepts



Source: Authors' own presentation

Novelty of innovations

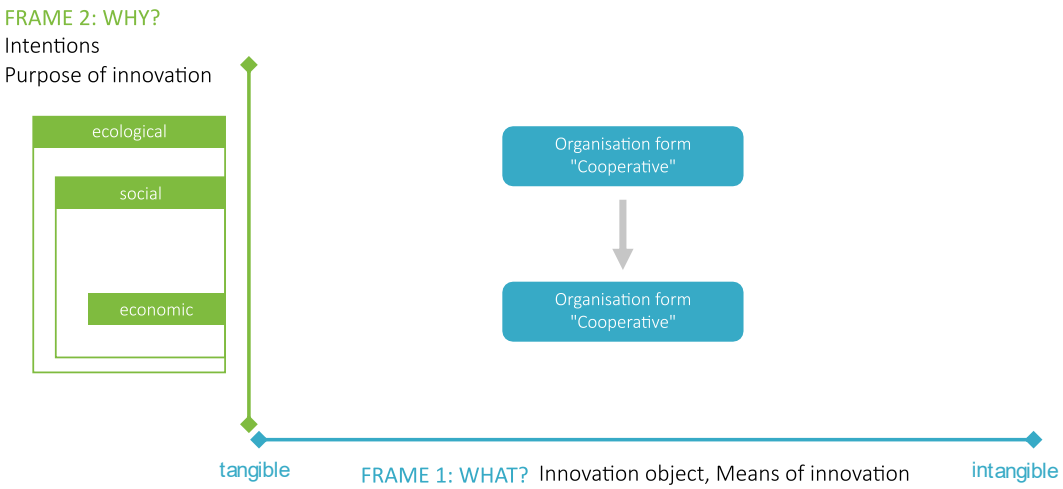
In terms of intention, economically-orientated innovation focuses less on *newness* or novelty, and not on improvement, but on competitive advantage and profitability. When it comes to socio-ecological orientations, the focus is on the aspect of *improvement,* i.e. achieving better solutions for urgent problems/challenges. Novelty in and of itself is not especially decisive, and "newness" in general is accorded less importance than added value for society. Newness or novelty is only an indicator of the **possibility that the (new) solution may be better than what already exists.** However, it may also turn out in practice to be worse than the existing solution. With these ("social") innovations, then, the focus lies not on their novelty, but on their relative superiority to extant or alternative options. To sum up: for the concept of innovation, novelty is in fact of secondary importance. Novelty merely opens up the possibility (or the risk) of better (or worse) solutions; it is the solution itself that counts. In the world of business, things which have proven themselves on the market and which generate competitive advantage are better. Socio-ecologically orientated innovations, meanwhile, hinge around whether the new solution is better suited to solving, or contributing to solving, social problems/challenges. While in business innovation there is a basically positive attitude towards "creative destruction", there is much more ambivalence when it comes to socio-ecologically orientated innovations:

innovation can also have negative consequences and in any given case, the existing solutions may be the best options available. For the purposes of the ISI project, it is sufficient to define the novelty criterion of innovation in such a way that a (social) innovation must have achieved a certain degree of diffusion in order to be considered an innovation (as opposed to an invention), but equally it should not yet have become so established as to be the dominant solution option. By definition, SIs always challenge the "conventional", existing options for solving a problem, and they must be proven to be better-suited than these existing options.

Dynamics of SI: Types of innovation over time

In addition to the aspects presented above, the dynamics of (social) innovation illustrate the importance of applying a more comprehensive concept of innovation, and of making clear the differences between technological, social and economic innovations. It is not controversial to state that innovations can move between different types of value-orientation. To take one example: Blockchain, a new technology and, as such, a technological innovation, emerged from the realms of science and commerce, and is also being deployed with social and ecological intentions in mind. This could be described as a move from the realm of the economy and into the social and ecological sphere. As a technology, Blockchain was an economically-motivated innovation at first, but has become a social and ecological innovation, too, since it came to be utilized for social and ecological intentions. Secondly, some innovations open the way for other innovations and therefore can be said to bring them about. Examples of this can be seen in the realm of digital social innovation, in which varying technologies act as "enablers" and "drivers" (see e.g. Qureshi et al., 2021).

Figure 6. Co-operatives as an example of innovation types over time



One other example of the dynamics of the innovation process is the organisational form of the *cooperative*, which was itself once novel. This form initially pursued primarily social objectives, which combined with economic goals. As a form of organisation used by many banks and also some supermarkets, it generally lost this social orientation with the passage of time, and has become a more of a business innovation. Only in recent times have cooperatives been

rediscovered by the non-profit sector, in the form of, for instance, energy cooperatives. In this case, an SI turned into a business innovation (see Figure 6), which went on to acquire a more marked socio-ecological orientation. Innovation "chains" exist, which become visible when we draw distinctions between objects and purposes in a standardising way, and consider them over the course of a whole period of time. This fact makes it even more important that "social" innovations are not investigated separately from other innovation types, but are analysed in their interaction with these, and over time.

Example: application of the SI system to shared housing

The SI known as "*gemeinschaftliches Wohnen*" (GW, or "communal living") essentially consists in recognising that economic and ecological resources can be used more efficiently and conserved, and by the same token positive effects for people and society can be achieved, when dwellings are built, managed and/or used communally. This logic of the intended impact serves as the core and defining criterion. Depending on different focuses, GW can be further differentiated into several sub-categories or sub-types. Combining communal living with (partial) provision of care services for the elderly, the sick or for persons in need of care for other reasons has resulted in a whole "family" of SIs coming into being. These have become established in Germany to some extent, but they still contrast with the much more widespread, conventional practice of living either alone or in inpatient facilities (retirement homes, etc.). In a communal care home (*Pflege-WG*), care services are provided on an outpatient basis. They are organised not individually but collectively. Another typical feature is the provision of communal areas, sometimes including the communal provision of meals, in order to promote communication and mutual support. Other sub-types of this group of SIs include the ecovillage, which aims to facilitate sustainable lifestyles, or "*Wohnen für Hilfe*" (living for aid), a housing concept whereby students live with residents in need of assistance, supporting one other while making their housing affordable.

This is clearly an innovation that lies in **the middle of the tangible-intangible spectrum.** What is new is first and foremost the social practice of organising (shared) living quarters, which is something that also requires tangible elements, notably appropriate contracts and architectural solutions. These aforementioned sub-types have historically involved varying degrees of **participation,** but by and large have emerged "from society itself". Many accommodation projects are self-managed or not organised in a formal way at all, instead coming about at the initiative of groups of individuals, some of whom have taken inspiration from the example of existing initiatives. There are also cases of projects developed by charitable organisations and/or property developers, such as Caritas. Equally, when looked at in relation to its **intended impact**, this is clearly a "social" innovation, as it invariably addresses social intentions (health, housing, social cohesion) and, for some individual projects, ecological intentions (mainly for ecovillages and building revitalisation projects, but this also occurs as a background matter for other project types, e.g. conserving resources through shared use).

The transformation of SIs over time, whereby one SI would merge into another (e.g. through "reinvention") or whereby one would permit the other, can also be illustrated with the example of a communal living project. One can imagine – and this is something often be observed in

reality – that a housing project is founded for non-economic purposes, for example to enable a religious or politically-motivated way of life, in order to promote interactions that can create cohesion and mutual support, in order to meet care needs or in order to achieve a sustainable way of life and therefore positive ecological effects. But over time, for example as new "generations" of residents move in, these orientations de facto fall away and all that remains is the fulfilment of the need for accommodation and for economic benefits for tenants and landlords. (As housing is a basic human need, this could, in a way, still be viewed as a "social" orientation, meaning that a "*Zweck-WG*" [a flat-share entered into purely in order to share the rent and save money] would also, in this respect, count as a "social innovation".) If a landlord offers rooms as a shared dwelling to optimise rental income, then in the end this SI will have turned into a business innovation.

4. Measuring the effects of social innovations

Although the question of the effects of social innovations (SI) is not new, and although there exists an extensive body of preliminary work upon which we can draw (see Appendix A Literature selection), the dependent work areas of theoretical basis, methods and systematic data collection are all still in their infancy, relatively speaking, when compared with the more narrowly-defined area of technological innovation and business innovation (see also Infobox 10 on p. 57 and (Bund et al., 2015:49)). The ISI project has set itself the task of contributing to the further development of this important research area and of developing a **pragmatic concept,** characterised by practical applicability and utility, which combines the concept of SI with the possibilities of impact measurement methods as developed in evaluation research.

Intention and effect

Out of the definitional framing devices (Frames 1-3) as given above, Frame 2, which is concerned with orientations towards socio-ecological purposes (Frame 2) is best suited to building a conceptual bridge towards impact measurement. This is because the notion of intention is central to both framings, i.e. both for SI and for impact measurement, and this makes it possible to link the two concepts in a meaningful way.

If SI is defined in terms of **intentions**, this gives rise to the problem that the intended goals may not necessarily correspond to the real, observable effects. History is littered with instances of inventions that clearly turned out differently, and had a completely different effect, from how their inventors intended them to work. Well-known examples include dynamite, the phonograph and the Internet.

Potentially, every invention could have an impact on all areas of society, meaning that in practice it would be hard to define a "social" innovation based on its **"social impact"** as being distinct from non-social innovations (Havas & Molnár, 2020, p. 3). In general, every innovation (also) has social effects and in this sense is therefore "social". There is also a practical problem in that effects can only be tested empirically over time and not at the time of the activity itself, which is all the more the case where medium and long-term effects need to be taken into account (Gault, 2018).

So while it makes sense to differentiate innovations as being either socially, ecologically, etc. orientated, based on the **intentions** linked with them, their **actual impact** is a related but separate question. "Good" intentions are no guarantee that "good" will be achieved, but it does not follow from this that intentions can be excluded from the analysis. An invention whose aim is to reduce social inequality may in fact increase inequality or displace so that it affects other areas or groups of people ("displacement effect"; see Mildenberger et al. (2020), Lee et al. (2019)). Whether a socially-orientated innovation truly represents a "better" solution to a social problem than do other options is not something which can be clarified at the level of intentions, but in comparison with the available **evidence**. This consideration is the basis for interest in impact measurement in general and the impact measurement of social innovations in

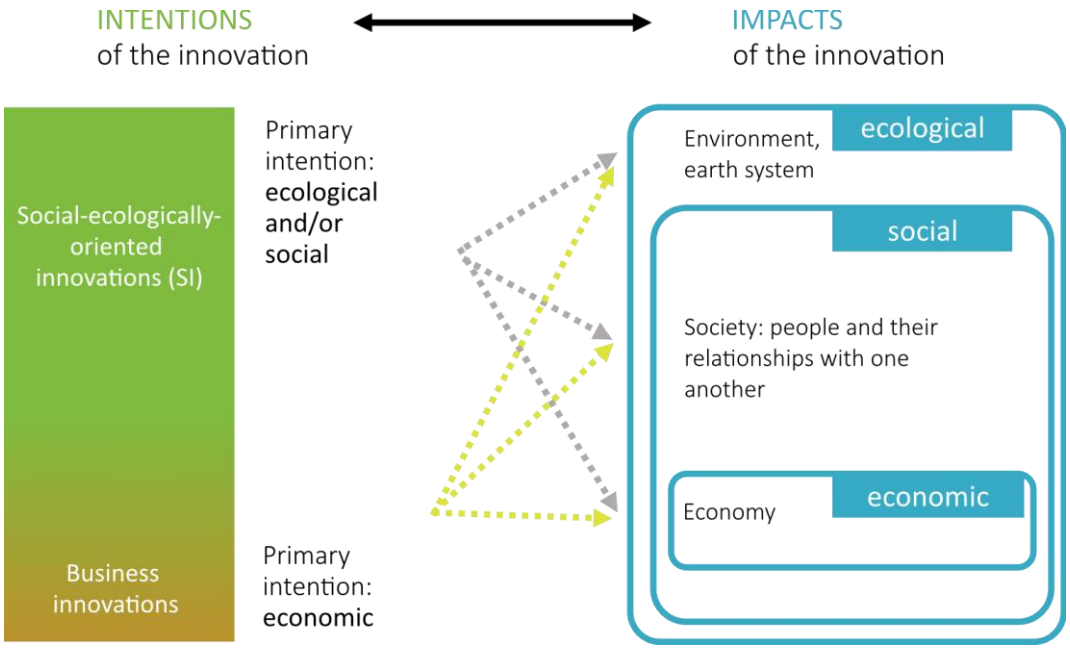
particular. This consideration also challenges the optimistic perspective according to which innovation is necessarily connected with progress, by requiring empirical proof of the intended improvement. According to SIGU (BMWK/BMBF, 2023: 9):

> *"Impact measurement is [...] an important instrument for demonstrating that they [social innovations and public benefit organisations] (better) meet social needs".*[7]

Evaluation research has produced the largest and most important body of concepts, methods and empirical studies in respect of ex-post impact measurement (Grünhaus & Rauscher, 2021). This body of research has been supplemented by the further development of causal analysis in econometrics as well as by more fundamental progress in statistics, partly by way of clinical study designs. A concept for measuring social innovations specifically can (and should) build on this experience. These research findings are summarised below and also interrogated in order to determine how they might be deployed to measure the impact of social innovations.

This figure illustrates the relationship between intention and impact:

Figure 7. Intentions vs. effects of innovations



Source: Authors' own presentation

[7] Translated by Edward Maltby for this paper

Methods of impact measurement and their potential for measuring social innovations

Three types of impact evaluation methods

Not all methods that are relevant to impact evaluation can be discussed in detail here.[8] They can be categorised into three types by reference to their underlying orientation. These types differ in terms of how they approach the problem of the observability of **causality** and the focus resulting therefrom. The often-cited quantitative/qualitative distinction is not so suitable for keeping a focus on the essentials.[9]

Table 1: Selected impact evaluation approaches

1. Methods with an attribution focus	2. Methods with a theoretical and process focus	3. Methods with a focus on monetisation
Randomized Controlled Trials (RCT)	Logical Framework, causal chains, IOOI	Cost Benefit Analysis (CBA)
Difference-in-Difference (DiD)	Theory of Change (ToC), Program Theory	Impact Accounting (IFVI, VBA)
Propensity Score Matching (PSM)	Realist Evaluation	Social Return on Investment (SROI)
Instrumental Variables (IV)	Contribution Analysis	
Regression Discontinuity (RD)	Collaborative Outcomes Reporting	
Before and After Comparison	Causal Link Monitoring (CLM)	
Counterfactual self-assessment	Most Significant Change (MSC)	
	Outcome Mapping (OM)	
	Process Tracing	
	Qualitative Impact Assessment Protocol (QuIP)	
	Success Case Method	
	Positive Deviance	
	Case Study	
	Qualitative Comparative Analysis (QCA)	

Source: Authors' own compilation

The question of the nature and observability of causality is shaped by the philosophical foundations laid down by Immanuel Kant and David Hume in particular. One of the key ideas that is still regularly discussed in evaluation research literature today is the idea of the **"counterfactual",** according to which states and changes in states can only be attributed to a specific cause (= attribution) if compared with a counterfactual scenario, i.e. one which cannot be directly

[8] See also (Maas & Liket, 2011), and the results of the SIMPACT project, in particular on the measurement of SI impacts in particular: (Dhondt et al., 2016), and the TRANSIT project: (Kemp et al., 2017).

[9] Copestake (2024) proposes that impact evaluation methods be differentiated and systematised in a way that builds more on the distinction between qualitative/quantitative methods.

observed, in which this cause does not exist.[10] It is no coincidence that this matches the basic method of scientific laboratory experiments: all other conditions are understood as potential sources of interference and are held constant so that individual changes can be studied in isolation as causes. In David Hume's view, causality is a regular and observed succession of two states – nothing more and nothing less. The methods with a focus on attribution are part of this empiricist tradition. On the other hand, Kant argues that causality is a basic and *a priori* category of the human mind that precedes observation and is connected to his concept of freedom, which brings us into the realm of metaphysics.[11]

But more important for the purposes of this research paper are the practical implications of the three methodological strands. The existing, available methods used for impact evaluation (the EFI Report 2024 speaks of "causal analyses" instead; EFI, 2024, p. 40 et seq.) can all be understood (EFI, 2024, p. 40 et seq.) as answers to the underlying **question of the systematic examination of cause-effect relationships** . There is broad agreement but by no means a complete consensus that *attribution* is in principle only possible through counterfactuals (see also the alternative concept: Contribution Analysis by Mayne (2019)). What is more controversial is the question of whether RCTs, randomised control trials, are always the best method ("gold standard"; (Webber & Prouse, 2018)) for establishing attribution by means of comparison with counterfactuals. An answer in the affirmative would seem to be indicated by the fact that RCTs apply statistical methods in the most consistent way, and that they adopt the law of large numbers so as to transfer the "ideal" of a laboratory experiment to social reality. It would seem to follow that other methods are only preferable in individual cases for practical reasons, and not for methodological reasons. However, it is argued that this point of view ignores methodological disadvantages of RCTs and disregards the advantages of other methods (Ravallion, 2020).

From a pragmatic point of view, it is helpful, first of all, to ask which methods of impact measurement are commonly used by impact-oriented organisations, and to take this information as our starting point. Unfortunately, there is currently little reliable data regarding the matter of use by organisations of the various impact measurement methods, including, in particular, regarding actors who are relevant from an SI perspective, such as social enterprise start-ups, or socially/ecologically innovative enterprises or charities. In the German Social Entrepreneurship Monitor 2024, Kiefl et al. (2024) conclude that "[m]ore than half (62.0%) measure their impacts today in order to permit informed decision-making, while a further 29.2% intend to measure their impact in the future." However, it can be assumed that this figure overestimates the true percentage of organisations that carry out systematic impact measurement, as it is unclear what each respective respondent means by "impact". It is likely that the percentage who use more ambitious, experimental, quasi-experimental or theory-based methods which consider the problem of attribution is rather less than these figures might suggest.

Fragmentary evidence provisionally suggests that this may indeed be the case: the time-consuming and financially and professionally demanding methods of impact measurement such as RCT, QuIP or SROI are rarely used in practice. Where they are in fact used, they are generally deployed by relatively large organisations which are active on the national or international

[10] As the sine-qua-non criterion, it shapes the entire field of law and jurisprudence, to take one example.
[11] On causality in Hume and Kant, see (De Perris & Friedman, 2024; Langsam, 1994).

level. These entities almost always use these methods for the evaluation of large interventions, or at least for scaling planned interventions, primarily in the areas of development cooperation, poverty reduction, health and education.

In present discussions on measuring the impact of SI, the question of which methods and standards are appropriate for which types of organisation and other areas of activity still, broadly speaking, remains open.

Infobox 5. The practice of (counterfactual) impact evaluation

What figures and analyses are available indicate that even at the national and international levels, the practice of impact evaluation does not always meet the high standards required of causal analyses. To illustrate the need to reinforce methods used in evaluating research and development policy, the 2024 EFI report states that of 81 evaluation studies (2009-2023) examined within the BMBF's and the BMWK's areas of responsibility, only 59 interpreted results causally and of these, only 14 studies made a methodologically-sound comparison of treatment and control groups, which is regarded as the prerequisite for making a causal interpretation. Of these 14 studies, half used "matching" procedures, which the expert commission described as only being suitable to a limited extent. Only one study implemented an RCT plan (EFI, 2024, p. 40 et seq.).

The list of 183 Counterfactual Impact Evaluations (CIE) which were done within projects funded by the European Social Fund (ESF) paints a similar picture. Most of these experimentally-based evaluations related to the labour market, and some to the education sector. Only one of these studies used an RCT design, whereas most relied on propensity score matching (source: Presentation by Linda Adamaite, DG Employment, Social Affairs and Inclusion, European Commission, online workshop on 18 September 2024; see also Müller et al. (2020) on PSM).

There are also most likely certain areas or sectors where randomised trials (and quasi-experimental methods) are more likely to be used than elsewhere. The largest database of impact evaluations is provided by i3e (https://developmentevidence.3ieimpact.org/), whose origins and focus lie in international development cooperation and is therefore by no means representative for all areas. Nevertheless, it is striking that in evaluations that fell under the "Health" category in the database, 61% used RCTs (as opposed to the alternatives: quasi-experimental methods (19%) or unknown (21%)), while in the other categories only 28% used RCTs (as against 71% quasi-experimental and 1% unknown).

Gorgi Krlev and colleagues drew interesting conclusions in this regard, in their meta-analysis of 114 evaluations that used the SROI method (Krlev et al., 2015): Control groups were only used in 3 instances; frequently, comparisons were "only" made in relevant sections using baseline data from population statistics or surveys at regional/national level. The authors recommend instead making dedicated before-and-after comparisons as a minimum – this method was used in 18% of the reports in question. However, the authors state that a large proportion of reports did not provide any data basis for a causal attribution of the effects that were claimed.

In any case, it is important to distinguish between impact measurement done within the framework of impact measurement and management (IMM) by individual organisations for their own activities on the one hand, and assessments of broader effects of SI on society on the other hand. This latter type of assessment requires greater expertise, more resources and superior

techniques[12]. There is, however, a strong correlation between these two areas of application: Higher-level impact assessments of SI require relevant data, and this can only be generated, or at least can most efficiently be generated, by measuring the impacts of individual SI actors. **Standardised models** and **indicators** can benefit both the actors themselves and the innovation impact assessment, in aggregated form (see chapter 5) – or so it is hoped.

Type 1 Methods with an attribution focus

The methods listed in Table 1 under point 1 (Randomised Controlled Trials (RCT), Difference-in-Difference, Propensity Score Matching (PSM), Instrumental Variables, Regression Discontinuity and Before-After-Comparisons) can be summarised as follows.

They all aim to approach the ideal of comparing the observed state with the – in itself unobservable – counterfactual by statistical means. In many cases which are of interest in connection with impact evaluation, an RCT cannot be implemented due to methodological requirements. The following five methods used in the group (see table) should be seen as creative substitutions for RCT. They use quantitative-statistical methods for the testing of effects on interesting values for a set of units, e.g. of populations. Because mean values for variables of interest are compared between the two groups in the study – the "treatment" group and the control group, representing the counterfactual scenario – "only" average effects can be specified. This means that it is only possible to obtain a limited amount of reliable information regarding the degree of an effect in an individual case for the individual under analysis – but at least the error rate can be specified. (Variations that may be relevant from the point of view of impacts, however, are not considered)

A different approach to solving the "attribution problem", i.e. the problem of assigning an effect to a specific measure/intervention to the exclusion of any other effects, is taken in the Counterfactual Self-Assessment method (C. E. Müller, 2024). However, as with the methods listed above, the focus here is on attributing causes to effects by means of using counterfactuals. Persons presumed to have been affected are asked about their individual judgement regarding which counterfactual scenarios would have occurred ("What would have happened had the intervention not taken place?"). These "what if" questions are attractive in evaluation practice, because in spite of all their methodological weaknesses, they are relatively easy to collect, and they still address the attribution problem.

Further literature

- Overview of RCTs, propensity score matching, instrumental variables, difference-in-difference, regression discontinuity, before-after comparisons (Gertler et al., 2016)
- Additional methodological developments made possible by machine learning (Brand et al., 2023)
- Discussion of counterfactual self-assessment (C. E. Müller, 2024)

[12] One example of this is the i-Share project whose purpose was measuring the impact of the sharing economy (https://www.i-share-economy.org), and whose findings have also been incorporated into ISI.

Type 2: Methods with a theoretical and process focus

The theory-focussed perspective finds its basis in assumptions about causal relationships, or "mechanisms", which need to be proven in reality and may need to be continuously adapted. This includes, in particular, Theory of Change (ToC), process tracing, outcome mapping, contribution analysis, etc. (see Table 1). The aim here is first to reveal the assumptions which underlie an intervention, then to formulate them on the basis of predefined schema (many contemporary evaluation approaches include a strong participatory element at this point), before developing suitable indicators that can expand and update the evidence base. If observations do not match assumptions, the theory (or strategy) must be revised. Assumptions are not validated, but can be falsified. This perspective focuses on improving (rationalising) the theory behind the assumptions which guide the activities. As opposed to methods of the first type, which allow for statements about the **degree** of the effect but disregard why and how an impact did or did not unfold, methods of this second type focus on the questions **"why", "how", "when"** and **"for whom"** a given intervention did or did not produce an effect, while no statements are permitted about the degree of the effect in question.

"Realist evaluation" (Pawson & Tilley, 1997) puts particular emphasis on the high degree of **complexity** and contingency which shape systems such as social or environmental systems. One intervention can and will, therefore, create very different effects in different contexts (Greenhalgh & Manzano, 2022). For this reason, from this perspective, Type 1 methods are only of limited use in conducting impact evaluations. While they may reliably prove causal relationships within a very narrow area of reality, they cannot simply be transferred over to other cases (population groups, regions, points in time, cultural contexts, etc.), although this is a central requirement of evaluation. Finally, there is a legitimate interest in finding out whether it would likely prove productive to continue with a given intervention and/or to implement it elsewhere. But in order to determine this, it would be necessary to build up *theoretical* knowledge about the intervention.

The evaluation methods that can be assigned to this group, such as Most Significant Change (MSC), Outcome Harvesting and QuIP, are themselves very much influenced by the demand for participatory evaluation, i.e. the inclusion of (potentially) affected persons in the practice of evaluation. This is based on a rather more interpretative logic of evaluation, one which aims to involve stakeholders right from the start (Krlev et al., 2023; Nicholls et al., 2020). With MSC, identifying the changes which are most relevant to affected persons is done by the members of the group themselves, by means of a predefined decision-making process. In the "Qualitative Impact Assessment Protocol", affected persons are asked about positive and negative changes in "domains of change", i.e. thematic areas of interest, defined on the basis of the client's ToC, although these hypotheses are kept hidden ("blindfolding"). Participants' explicit statements on causal relationships are summarised and quantified through diagrams, which permits an examination of differences between different groups surveyed. These results are then checked against the ToC, which means that it is possible to take an evidence-based approach to updating the ToC and thus the organisational strategy, too. In this way, QuIP combines quantitative and qualitative data and analysis steps. But this quantification only permits very limited statements

to be made about the degree of the effect. Here, too, the inclusion in QuIP of the perspectives of persons affected, or subjected to the evaluation, is an important element, which is largely absent in the experimental approach taken in Type 1 methods.

Further literature

- Theory of Change: (Koleros et al., 2024)
- Program theory, Realist Evaluation: (P. J. Rogers, 2000; P. J. Rogers & Weiss, 2007; Weiss, 1972; White, 2009)
- Contribution Analysis: (Mayne, 2012)
- Process Tracing: (Beach & Pedersen, 2013)
- Most Significant Change: (Davies & Dart, 2005)
- In terms of the Transformative Social Innovation concept ("Narrative of Change"): (Taanman et al., 2017)

Type 3: Methods with a focus on monetisation: Cost-benefit analyses and valuation

Evaluations based on monetisation (CBA, SROI, impact accounting) represent a dynamically developing area of impact evaluation in research and practice. They offer standards for translating impacts into a common unit (money) so that they can be made comparable and easier to communicate. The argument that in order for them to be relevant to decision-making, it must be possible to represent social and environmental impacts as costs (or as benefits) in monetary terms motivated the development of social return on investment (SROI), and this is still regularly advanced as an argument in favour of valuation (Kehl et al., 2018). At present, monetisation-based approaches have a central role, particularly in the areas of impact investment, social entrepreneurship and corporate CSR.

The original argument for **monetising** impacts (see Infobox 6), especially impacts of businesses, is that it is only by "internalising" the otherwise "externalised" outcomes (in particular, negative outcomes) for people and for the environment that it becomes possible to determine whether and to what extent a company creates "added value" in this connection, or whether it is generating its profits at the expense of people and the environment. This kind of approach leaves "valuation" to the market as much as possible, and for ethical reasons (e.g. considering the value of a human life), will sometimes fall back on normatively-set flat rates. For decades, monetisation of impacts has played an important role in commercial enterprises and in non-profit organisations and government interventions. This role may continue to grow due to tight public budgets. Contemporary work on "valuation" (see "Impact Valuation" in the list of further reading below), especially for businesses, focuses on calculating **shadow prices** for social and environmental impacts, which should then be included in companies' income and expenditure accounts. This development is surely relevant for the evaluation of SIs, as in the future it may possibly create a basis for comparing SIs with existing alternative options.

But the monetisation of social and ecological values regularly meets with resistance (Wruk, Oberg, & Friedrich-Schieback, 2019). This resistance boils down to the matter of how "value" is to be defined (Mazzucato, 2019). It is not so much monetisation itself that is problematic, so

much as the idea of value associated with accounting in monetary terms, which is still widespread in neo-classical economics today: the idea that the value of a thing could be set by the price resulting from supply and demand on "the market". Economists and sociologists have often criticised this notion, branding it misguided. These critics see the economy as being itself a product of society and of social history (Damtoft et al., 2023; Mazzucato, 2019; Polanyi, 2001).

Monetisation is an instrument used in some methods (such as SROI), but it is **not a specialised method** for *impact measurement*, either in the sense of attributing effects to interventions or in the sense of the theory-based production of evidence. While SROI has a focus on monetisation in that it aims to express impacts in monetary terms in order to make it possible to aggregate and compare them, this is only one part of the SROI method. This focus is made clearest by the SROI figure from which the method draws its name ("For every euro invested, you reap X euros as a social return"), which is plainly modelled on the ROI figure familiar to investors. Type 1 and 2 methods, however, are used to calculate the SROI for individual projects or for whole organisations. Concretely, this means that the approach proposed by the SROI network is to first create a ToC, to define the groups affected by the impact being studied, and, when calculating impacts, to take into account the challenges of counterfactuals (referred to as "deadweight"), attribution, "drop-off" and "displacement" (see also the articles in (Then et al., 2017)). Changes that would have taken place even without the intervention should be removed from the calculation, e.g. by making comparisons with benchmarks taken from similar interventions/organisations, with statistics on trends for the whole region/population, or for similar groups/regions. In principle, then, the logic resembles that which underlies the methods of experiment Type 1 (the self-assessment method is explicitly listed as an option (The SROI Network, 2012, p. 58), and RCTs would only be used as a secondary source). The "deadweight" is calculated as an estimated percentage value, based on the outcomes. The manual recommends that other possible stakeholders be consulted in the course of examining the displacement effect. Here, too, outcomes would need to be reduced on the basis of an estimated value. In the SROI context, attribution is understood in a narrower way than attribution to actors as causers. This results in the need to check whether other actors are also active in the same area. If, for example, a given service under investigation is also offered by other organisations, then the SROI is reduced, as only part of the intended effect can be attributed to that organisation. A rate of "drop-off", i.e. the expected decline in effects over time, is also calculated, using estimated percentage reductions year on year. Where no historical data is available, it is advised to consult information from experts, or previous studies. The SROI method requires the consideration of causal analysis, i.e. attribution, which is central to Type 1 methods. The appraisal is largely based on the expertise of the analysts, however, and is not set strictly in advance. This means that the valuation in SROI has only a low degree of transparency and reliability. Nevertheless, SROI is and remains the most comprehensive method for impact evaluation as it allows all of the three basic types listed here to be used in combination. However, the disadvantages and challenges that apply to the three types are also included in the SROI. Further developments of SROI, or alternatives to it, are still in the works.

Infobox 6. Monetisation: A rationalisation phenomenon?

The use of statistical methods to determine impacts in different areas of application is a good example of innovation in its own right. Because some approaches to impact measurement (including the most commonly-used SROI method) use monetisation to offset or allocate impacts, one might at first think that this reflects an "economisation" of social issues. In fact, this represents, to at least the same degree, a "scientific" innovation, i.e. the application of scientific procedures to non-scientific areas. If the two elements are brought together, then the process outlined here can be understood, even more abstractly, as a part of **rationalisation**. Rationalisation encounters routines, traditions and values in relevant areas, e.g. the professional ethos of the professions under discussion, and inevitably it comes into conflict with them. One good example of this is the abolition in the 19th century of the centuries-old practice of blood-letting as a form of medical treatment, which was based on ancient theories. The use of statistical methods and experiments laid the groundwork for this change, but because the procedure was strongly rooted in institutions, its abolition did not take place without resistance. As the realm of socially and ecologically motivated activity is characterised by corresponding value orientations, there is an understandable worry that rationalisation might throw these value orientations into question.

Further literature

- On Impact Valuation see, inter alia, the current digital publications of the WifOR Institute (https://www.wifor.com/de/), the International Foundation for Valuing Impacts (https://ifvi.org/) (a successor to the Impact Weighted Accounting project of Harvard Business School) and also the publications of the Capitals Coalition (https://capitalscoalition.org/) and the corporate network Value Balancing Alliance (https://www.value-balancing.com/)
- On SROI and its further development: Grünhaus & Rauscher (2021), Kehl et al. (2018), Schober & Then (2015), The SROI Network (2012), Then et al. (2017). On the context of SROI's origin: Barman et al (2021). Meta-analysis of 112 SROI applications: Krlev (2015). Application examples: Nutzinger et al. (2020), Then et al. (2012). Critical comments on SROI: (Damtoft et al., 2023)
- On impact evaluations, either general or for several types of methods: Comprehensive database with entries on terms and methods of evaluation practice and research (https://www.betterevaluation.org/); handbook on qualitative and quantitative methods: Khandker et al. (2010); comparison of QuIP with 30 other methods: Copestake et al. (2019); Practical guide to impact measurement for social enterprises (in English): OECD & European Union (2024).

The best of both worlds?

The question of which methods or combinations of methods are best suited to assessing the impact of (social) innovations remains open (see also Copestake (2024)). Strong arguments can be made in favour of responding to the diversity of impact areas – economy, environment, health, culture, etc. – with methodological diversity and interdisciplinary or transdisciplinary cooperation. Impacts in social, economic, health, ecological, fields and others sometimes concern very different objects; for instance, these can include the physical realm of carbon dioxide emissions and resulting greenhouse gas effects; the biophysical order of plant, animal and human organisms; the no-less complex world of language, interpersonal relationships, ideas and other forms of culture in the wider sense of the term. This makes impact assessment for SI an **interdisciplinary and transdisciplinary challenge** with all the associated requirements for translation.

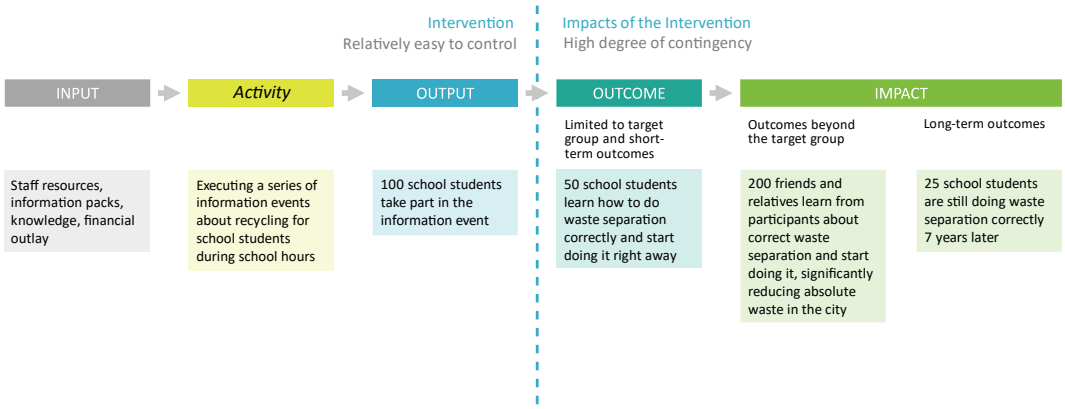
We therefore propose **to combine the insights of the theory- and attribution-based approaches (types 1 and 2). However, unlike with SROI, we propose not to prescribe and focus on the monetisation of all types of indicators, instead indicating new ways standardisation can be achieved.** In this way, the present concept builds on the one hand on the tried-and-tested practice of theory-based evaluation methods, and from these it takes the causal impact chain of the input-(activity)-output-outcome-impact model (IOOI), along with the allocation of indicators to causal relationships, the identification of relevant groups of persons affected by the impact as a basis for a (field-specific) standardisation of the SI impact assessment – this in fact represents a common variant of the ToC, which is very common in the field of evaluation practice. We do not wish to do away with the question of **attribution** of effects, however, but rather intend **to combine ToC with causal analysis**. In the model, this is located at the point where outcomes transition to impacts. The basis for this is a clear definition of "impact" that is based on counterfactuals and does not define "impact" as outcomes which are distant in terms of time/space/target group (more on this in the next section).

We believe it makes sense to find an **application-oriented way** to enable SI stakeholders to measure organisational and project-specific impacts without requiring them to use inappropriately complex methods merely because these methods would provide scientifically reliable findings regarding causality. Tackling the highly-demanding attribution question does not necessarily mean demanding a control group plan for every outcome being tested. For many organisations, it is a major step even to develop a ToC in the first place, to systematically collect data and integrate it into organisational management on an ongoing basis. Even collecting data on outcomes represents a major advance in terms of evidence-based activity, even if the question of attribution (still) has to be disregarded in individual cases. At any rate, the "ideal case" for an ongoing assessment of all effects, short-, medium- and long-term, geographically proximate and distant, on people (within and without target groups) and the environment is – as far as we know – not yet practicable. Practically speaking, therefore, there is a need for a **gradual impact measurement model** that can enable gradual development of impact measurement and that can do justice to users' different requirements.

The distinction between "outcome" and "impact" in the IOOI model

In the context of impact measurement, there are two fundamentally different definitions of the German term "Wirkung" (roughly equivalent to the English terms "effect", "outcome" and "impact" without differentiating between them) in use"""". The two definitions are sometimes mixed together, making the term "Wirkung" somewhat contradictory and blurred. The two definitions are well illustrated by the IOOI schema of Input, (activities,) Output, Outcome and Impact.

Figure 8. "Wirkung" (impact) as an outcome separated from the original actor in terms of space, time and target group



Source: Authors' own presentation

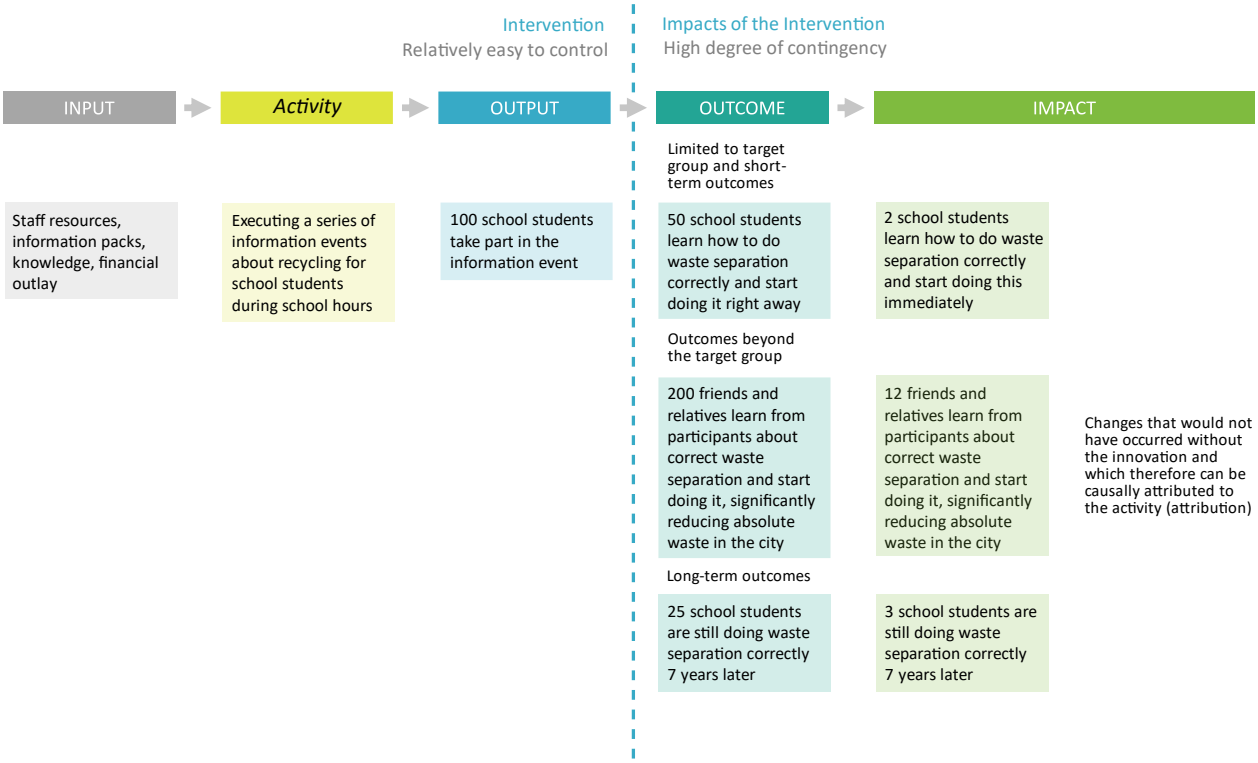
The fictional example of an information event for school students (see Figure 8) shows how in this case the distinction between outcome and impact can be determined based on the criterion of membership of a target group, or on the basis of the criterion of spatial or temporal distance, or on the basis of a combination of these three criteria. This perspective is pragmatic and comprehensible from the point of view of an organisation which is interested in its own impact, as the outcomes of its own activities that are "more distant" in terms of space, time and interpersonal networks are generally **harder to measure** than are "proximate" outcomes. For example, the learning success by the target group (of 100 school students) can be assessed immediately following the intervention by means of a questionnaire (e.g. testing the level of knowledge before and after the event). Carrying out a subsequent survey of that same group after many years have passed would be more practically demanding, as would be a survey of their relatives. In practical terms, it would be impossible to record all of the people told by members of the target group about things learned at the information event over a long period of time. But the issue here is not simply about technical feasibility. In dynamically changing, complex social situations, we have to deal with a multitude of interrelationships, which usually become harder and harder to comprehend fully as spatio-temporal distance increases (contingency). In the fictional example, the outcome "pupils learn about proper waste separation" lies only partially within the intervention's sphere of influence. For example, all it would take is one unforeseen event monopolising the students' attention to significantly alter their learning success.

According to this understanding of "impact", the intention behind impact measurement would entail the request to the actor responsible for the intervention to go as far as possible beyond these "proximate" outcomes and to investigate more "distant" and "socially relevant" outcomes (i.e. impacts). This is linked to the important distinction between positive and negative outcomes (and impacts) and the observation that outcomes and impacts can also be unintended. The questions of attribution of effects and of checking against counterfactuals, on the other hand, are quite irrelevant to this definition of impact and outcome.

Prominent examples from the German-speaking world in which this distinction between outcome and impact is observed include

- Kurz, B., & Kubek, D. (2021). Kursbuch Wirkung: das Praxishandbuch für alle, die Gutes noch besser tun wollen: mit Schritt-für-Schritt-Anleitungen & Beispielen. 6th revised edition. Berlin: PHINEO. https://www.phineo.org/kursbuch-wirkung.
- Online-Leitfaden der Stiftung Mercator Schweiz: "Projekte Mit Wirkung": https://www.projekte-mit-wirkung.ch/
- Riess, B. (2010). Corporate Citizenship planen und messen mit der IOOI-Methode. Ein Leitfaden für das gesellschaftliche Engagement von Unternehmen", 24 September 2010. https://www.bertelsmann-stiftung.de/de/publikationen/publikation/did/corporate-citizenship-planen-und-messen-mit-der-iooi-methode.
- Schweinitz, F. et al, (2023). Impact Measurement. Praxishandbuch. Impact & Impact Measurement of Social Innovations (IMV-Lab). https://imv-lab.com/wp-content/uploads/2023/12/Final-Version_Praxishandbuch_IMV-Lab.pdf.
  However, with the exception of the definition of "effect" on p. 17 (Schweinitz et al., 2023), which mentions the need to take account of "deadweight", alongside explanations on causality and experimental methods (which, however, refer to the relationship between outputs and outcomes) (ibid: 50-59). On the other hand, the proposed "sphere of influence" (Wirkungskreis) together with the "effect staircase" (Wirkungstreppe) (ibid: 24-49) (Schweinitz et al., 2023), follow the logic as described above (Schweinitz et al., 2023).

Figure 9. "Impact" as the attributable proportion of outcomes



The distinction between short-term and/or target group-specific effects on the one hand and on the other, longer-term effects with impacts on circles outside the target group, could also be introduced and maintained in this second case, except that it does not serve to create a basic distinction between outcome and impact. Rather, impact is understood as the **portion of outcomes** that can be attributed **causally** to the chain of inputs, activities and outputs **(attribution)**. Here, causality is understood as the relationship between causes and the effects that follow from them. If a change would have occurred even without an intervention, then there is no causal relationship between the two. In the fictional example of the information event, this would mean that although 50 students became better at waste separation after the information event, 48 would have done so even had the information event not taken place, while only two students would not have changed their behaviour without it. The intervention therefore in fact enjoyed much more modest success, especially if the effort (input) is considered in relation to its real effects (e.g. in euros per person with changed recycling behaviour per year). At the same time though, this is a more realistic picture, and one which opens up the possibility of interrogating which other influencing factors led to the positive change. These could have included a media campaign that took place during the same period, for example, or the introduction of a charge for non-recyclable rubbish in the context of falling real incomes in the region under investigation, the influence of viral social media content or a combination of several factors. In our fictional example, however, all these factors are simply unknown.

This definition of outcomes and impacts **(= net effects)** is formulated more generally and concisely in (Schober & Rauscher, 2014, p. 263):

> *"In English, a distinction is made between outcome and impact, whereas German only has the one term,* Wirkung*. The outcome describes all effects that arise as a result of the effort. The outcome can be compared with gross effects. For example, integration into the labour market is one effect of a labour market policy project. It would be unrealistic, though, to assume that none of the clients would have found a job in the absence of this project. A certain percentage of them would have found a job through other organisations or through social networks, for example. This proportion of effects that would have occurred anyway is called deadweight, and must be discounted from the outcome. In the evaluation literature, this is discussed under the name of programme effect (cf. Rossi et al. 2004: 207). What remains is the impact, i.e. those effects which can be attributed exclusively to the project. The impact can be described as a net effect."* [13]

Grieco (2015, p. 44), too, defines the term "social impact" (in the context of "social impact assessment" of and by social enterprises) with an eye to this distinction between outcomes and impacts and includes both **societal** and **environmental** impacts (see ibid. p. 48 et seq.); a perspective that we take up in this study:

> *"Social impact is the societal and environmental change created by activities and investments (Epstein and Yuthas 2014). It is described as a combination of resources, inputs, processes or policies that occurs as a result of the real, implied, or imagined presence or actions of individuals achieving their desired outcomes (Latané 1981; Emerson et al. 2000; Reisman and Giennap 2004). As a result of externally induced actions, it includes the intended and unintended effects, the negative and positive effects, and both the long- and short-term effects (Wainwright 2002; Epstein and Yuthas 2014). To fully understand the concept of impact, what is needed is a shift from the output perspective to the outcome perspective (Hehenberger et al. 2013). Outputs are the results that organizations can measure or access directly, as tangible results of their activities (e.g. number of trained people, percentage of new people in the workforce), while the outcomes are the wider changes, benefits and knowledge that they attempt to elicit in the world in the medium and long term (e.g. reduction of social exclusion, decrease in inequalities). Since outcomes refer to changes in the society, they are determined by a wide range of actors as well as by external conditions that could facilitate them. Organizations can of course have a key role in driving the change, though their contributions must not be overestimated. For this reason the concept of social impact refers to the portion of the total outcome that occurred due to an organization's activities above and beyond what would have happened anyway (Clark et al. 2004)."*

In-depth literature (practical manuals):

- European Commission. Directorate General for Employment, Social Affairs and Inclusion. Proposed Approaches to Social Impact Measurement in European Commission Legislation and in Practice Relating

[13] Translated by Edward Maltby for this paper

to EuSEFs and the EaSI: GECES Sub Group on Impact Measurement 2014. LU: Publications Office, (2014). https://data.europa.eu/doi/10.2767/28855.

- OECD and European Union. *Measure, Manage and Maximise Your Impact: A Guide for the Social Economy*. Local Economic and Employment Development (LEED). OECD, (OECD & European Union, 2024). https://doi.org/10.1787/2238c1f1-en.
- Impact Frontiers: Impact Performance Reporting Norms, e.g. "Impact Performance Reporting Norms. For Investors in Private Markets" (April 2024) (https://impactfrontiers.org/wp-content/uploads/2024/04/Impact-Performance-Reporting-Norms-V1.pdf) and: https://impactfrontiers.org/norms
- Grünhaus, C., & Rauscher, O. (2021). Impact und Wirkungsanalyse in Nonprofit Organisationen, Unternehmen und Organisationen mit gesellschaftlichem Mehrwert: Vom Wirkungsmodell über die Messung, Bewertung bis zur Steuerung, Darstellung und Kommunikation. Kompetenzzentrum für Nonprofit-Organisationen und Social Entrepreneurship. https://research.wu.ac.at/ws/files/19857361/Gr%C3%BCnhaus_Rauscher_Impact_Wirkungsanalyse_gesellMehrwert_Apr2021.pdf
- Schober, C., & Then, V. (Eds.). (2015). Praxishandbuch Social Return on Investment: Wirkung sozialer Investitionen messen. Schäffer-Poeschel Verlag.
- Gertler, Paul J., Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch. *Impact Evaluation in Practice, Second Edition*. Washington, DC: Inter-American Development Bank and World Bank. (2016). https://doi.org/10.1596/978-1-4648-0779-4.

So the fact that there are two different uses of the term "Wirkung" ("impact") does not necessarily mean that there are different understandings of the same thing, but rather that they are two different objects, referred to by the same term (White, 2012). It is therefore perfectly possible to **integrate the two uses of the term**, which is what we mean to do below. It would be problematic, however, to speak of "impact", "impact evaluation" or "impact measurement" without any consideration of the question of the causal attribution of conditions/changes to the examined causes. The oft-cited "impact staircase" (Wirkungstreppe) of the "Kursbuch Wirkung" ["Impact Course Book"], used widely in Germany, "only" records the outcomes, but not yet the impacts of the intervention.

This second understanding of impact presents a number of advantages in relation to the first. Firstly, it corresponds to the common everyday and scientific concept of causality, which regards temporally and spatially distant changes as causal effects, provided they can be reliably attributed to the cause (e.g. the "sine qua non" criterion as used in legal contexts). Secondly, the boundary separating direct and indirect effects is arbitrary (at what point does an effect become "long-term"?) and depends on an organisation's perspective (definition of "target group"). Thirdly, the question of attribution is important in order to be able to distinguish more effective activities from less effective ones.

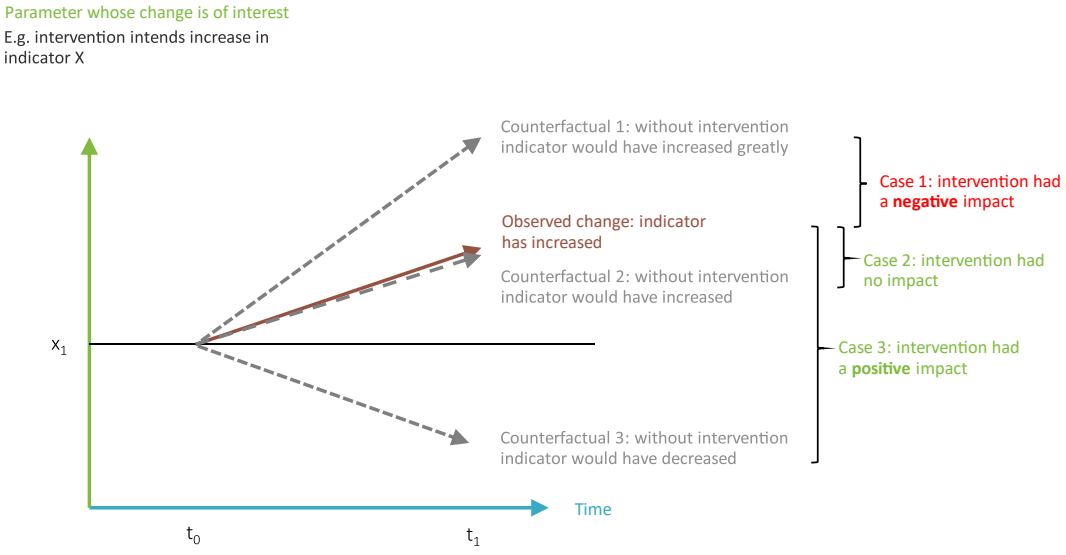
The drawback, however, is that **solving the question of attribution** is challenging and demanding. This means that in practice, the question of feasibility and proportionality will arise. While it is true that in individual cases it will be either impracticable or excessively demanding to measure a comprehensive range of effects, either in advance or retrospectively, and to causally attribute them to an intervention. However, this does not necessarily mean that the question

of attribution should be thrown out entirely – either for impact-oriented organisations or for research.

Recent evaluation research and practice looking at the question of attributing positive and negative impacts to specific interventions has shone a light on many important phenomena that illustrate how impact measurement, especially at the social level of interpersonal relationships, is not a simple matter, and that must also be taken into account in SI impact measurement. Three central phenomena are: Drop-off, misattribution and displacement.

- The **drop-off effect** means the extent of an impact caused by an intervention (at time t_0) decreasing over time. Measuring an impact solely at one time, t_1, can therefore lead to false conclusions. For this reason, comprehensive impact evaluations usually involve additional measurements being taken at later points in time, in order to see whether the effect still persists after more time has elapsed. In SROI analyses, an appropriate negative factor is generally included in the calculations, so as to take drop-off into account.
- The relevance of the matter of **attributing** observed changes, or portions thereof, to specific causes is made clear when we consider the following extreme example (see Figure 10). In this example, an incorrect conclusion would follow if the positive change in the relevant indicator x (brown arrow) which occurred between time t_0 (before the intervention) and time t_1 (measurement after the start or end of the intervention) was directly attributed to the intervention. Counterfactual scenarios 1-3, which could be derived e.g. by comparison with control groups, show that the intervention could have had no effect on x (case 2) or could even have had a negative effect (case 1), namely if the indicator x had increased more without the intervention than it did with the intervention.

Figure 10. Extreme case – positive outcome / negative impact



Source: Authors' own presentation

Infobox 7. The triumph of RCTs and experimental methods in economic fields of study

In 2019, Abhijit Banerjee, Esther Duflo and Michael Kremer, who were instrumental in advancing the aforementioned research into microcredit, received the Nobel Prize in Economic Sciences for the use of experimental approaches, including RCTs, as part of the fight against global poverty. Since then, RCTs have played an increasingly important role in evaluation practice, including but not only in development. A few years later (2021), Joshua Angrist and Guido Imbens received a Nobel Prize in Economic Sciences for their methodological contributions to the analysis of causal relationships. Angrist argues that RCTs represent the "gold standard" of such methods, but they can be replaced with other methods which are also based on the same basic principle of constructing a counterfactual (in particular, instrumental variables, difference-in-difference, and regression discontinuity).

- **Displacement:** The displacement effect is regularly observed in various fields of intervention, for example in criminology, as well as in development cooperation. In specific cases, stricter laws, harsher punishments, or increased surveillance may lead to a fall in the crime rate, for instance in the case of drug smuggling at harbours and border crossings. This does not necessarily mean, however, that the criminal activity in question has really decreased: it is possible that it could simply have been displaced to another location. The same goes for e.g. measures against homeless people congregating in city centres, criminalisation displacing prostitution from the public into the private sphere, or the introduction of CCTV in particular neighbourhoods in order to improve safety.[14] This displacement effect is not merely a question of the *spatial* displacement of an apparently-solved problem, but it can also be thought of in terms of both *time* and *content*. A given intervention can result in a problem being "postponed", only for it to arise later on; it can also cause new problems to occur in other, unnoticed spheres. The latter is the case, for instance, where the solution to a social problem is associated with negative outcomes for the environment, or contrariwise where the problem is displaced onto other groups. For this reason, when considering an intervention, it is important to look at possible additional impacts, alongside those topics, target groups and regions which form the primary focus. Naturally, these additional impacts could be neutral or positive as well as negative. This phenomenon also needs to be borne in mind when measuring the impact of SI. The approach presented here takes this fact into account.

Conclusion: In order to address the attribution question, i.e. to measure not only outcomes but also impacts, it is necessary to compare an observed state or an observed change with a counterfactual scenario that in principle cannot be directly observed. This cannot and need not (always) be done in a randomised control trial (RCT) study. What is central, rather, is the comparisons of, for instance, a state measured before an intervention (before-after comparison) or with the results for the same indicator for relevant comparison groups, e.g. by comparing indicators for one group of persons affected by an intervention against statistics for

[14] Cerezo, A. (2013). CCTV and crime displacement: A quasi-experimental evaluation. European Journal of Criminology, 10(2), 222-236. https://doi.org/10.1177/1477370812468379

regional/national populations, or by carrying out a "counterfactual self-assessment" by surveying groups of people affected by a given intervention.

Infobox 8. The attribution focus in development cooperation

The example of microcredits Since the 2000s, advancing microcredits has proven a very popular form of intervention for fighting poverty and improving the situation of women. The concept earned Muhammad Yunus the Nobel Peace Prize. In 2018, microfinance institutions (MFIs) were able to reach around 140 million clients worldwide. However, a series of RCTs in different regions of the world found that it was not possible to confirm the assumption that the practice had had positive effects on poverty reduction and the empowerment of women. Comparisons with randomly-selected comparison groups revealed only very weak effects (positive and negative); only households which were already active in business benefited from these measures, which allowed them to expand their business. These results had a powerful impact on the practice and policy of development cooperation. See the special edition of the *American Economics Journal*: *Applied Economics*, Volume 7, Issue 1, 2015.

Social innovations in and through organisations

The IOOI scheme is a concept from theory-based evaluation research that was developed for interventions, projects and organisations. For the ISI project, we made the important decision to impose a **restriction to organisations** as central actors of SI: that is, innovations that are generated by organisations (e.g. new products, services, etc. provided by a social enterprise or the introduction of a new measure by a public institution) and innovations that are expressed within the goals of organisation itself (e.g. a social enterprise founded to implement a novel solution). This will mean losing sight of certain aspects of SI – notably, the non-organised, informal level of many innovation processes. But if we take a pragmatic view, organisations currently offer the most feasible avenue, and can provide a point of entry into the as-yet rather uncharted field of SI. All the more so, because as mentioned earlier, ISI is choosing to define organisations broadly, as this permits not only the inclusion of innovation activities by companies but also by NGOs, public institutions, welfare organisations, and so on (see the ISI panel design in: Terstriep et al. (2024)). It can be argued, along lines developed by the sociology of organisations, that organisations play an especially important role in all areas of life, including in relation to solving (as well as creating) problems that affect society as a whole. It will remain an important challenge for future SI research to focus more on non-organisational SI, however. Otherwise, SI in the sense of an expansive SI concept, as presented here, will be overlooked, in particular many of the purely "participatory" SIs that emerge from society (Frame 3), such as self-organised carpooling, private book swap shelves, alternatives to handshakes during pandemics, and much more.

SI impact measurement at the micro level: Towards a gradual model

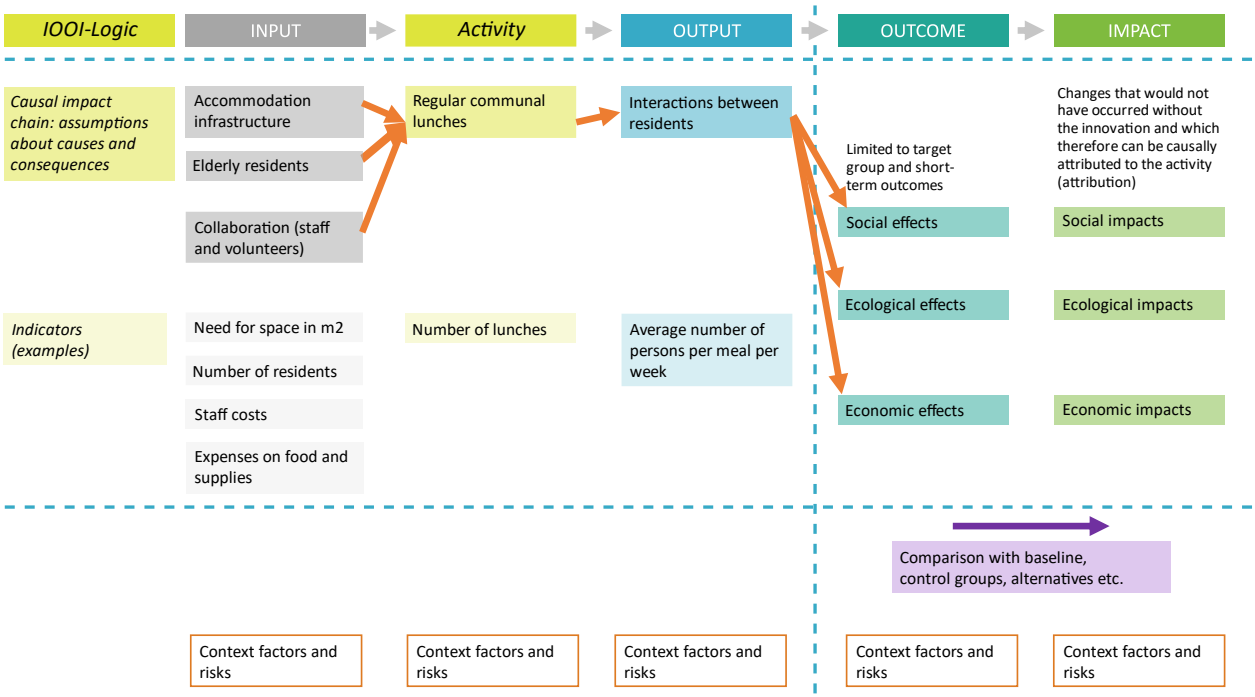
In scientific terms, measuring social, ecological, economic and other impacts is a challenging undertaking. For example, if one were to insist that only RCTs could provide reliable figures on the effect of a given intervention, then impact measurement would become too time-consuming, knowledge-intensive and resource-intensive, for most people who might wish to attempt it, and therefore would become impractical. Another example of this is the requirement to consider long-term effects: in fact, only relatively few "impact evaluations" from parts of the

field of international development cooperation or the education projects of large organisations manage to meet this requirement, because this requires multiple surveys over many years, and these entities have a relatively large amount of experience in making evaluations (see Infobox 5). However, it does not follow that important questions should simply be dropped, and especially not those relating to long-term, indirect, unintended, negative impacts and their attribution to specific outputs. The importance of the attribution question was illustrated in the example above, which showed how seemingly positive effects can be changed into an (attributed) effect which is in fact negative. Instead of "all or nothing", we propose a pragmatic approach which allows "more or less" impact measurement, especially at the "micro level" of SI stakeholders, while still retaining scientific rigour, while offering practicable intermediate stages and paths which can still be applied in practice. For impact models which use IOOI logic, this would mean keeping the distinction between outcome and impact based on comparison against counterfactuals, but:

- allowing for a range of different methods of estimating impact, to be selected depending on capacities and questions. In addition to RCTs and quasi-experimental, quantitative methods, this would also include more straightforward target/actual comparisons, comparisons with field-specific benchmarks, comparisons with indicators which can be gleaned from official statistics or other publicly-accessible databases, or surveys of self-assessments of impacts made by persons affected by them.
- recognising that the move from output to outcome is an important one, and has value in and of itself. It will not be possible to (directly) measure impacts for all outcomes.
- permitting outcomes and impacts which are direct, short-term, target group-related etc. to be recorded first in individual cases. In any case, comprehensive recording of all conceivable impacts, including indirect, long-term, negative, unintended, non-local and non-target group-specific impacts, is only theoretically possible. These should still be discussed, however, in the course of developing impact models.
- impact measurement at the micro level must be proportional. It is important to assess such proportionality with care, and to consider it when setting standards for "maturity models" or in respect of requirements from politicians, investors or other stakeholders.

The following example offers an illustration of this proposed, "pragmatic" approach to modelling and indicator development for the SI of communal living, using an example of one impact chain (interactions between residents occurring thanks to regular communal meals, which are intended to improve quality of life and health for residents) (see Figure 11):

Figure 11. Example of an impact model



- The **IOOI logic** taken from theory-based evaluation research is well-suited to connecting impacts and outcomes with outputs and inputs. The additional step of "Activity", which occurs in some use cases in a Theory of Change (ToC), can also be omitted or integrated with "Outputs".
- While it is not strictly necessary for impact measurement purposes to list **inputs**, doing so does provide important additional insights, as it means that the evaluation of the process can be combined with an evaluation of the impacts and of the efficiency with which the impacts under examination can be assessed. For instance, whether a given impact was achieved by means of higher or lower inputs (e.g. deployment of staff) makes a difference for the organisation itself, as well as for external stakeholders. This also applies to comparisons of SI with conventional alternatives. In the example, it would be important to calculate the costs of staffing, meals and the use of additional space to improve the quality of life for elderly residents. More efficient solutions may exist that might achieve the same effect. When measuring the overall impact of SIs, it is of importance whether they achieve certain impacts better or worse than conventional solutions (e.g. a residential care home or a person's own private home), but it is also highly relevant whether they do so at a higher or lower cost.
- Assumptions regarding causal impact chains are developed and presented in accordance with **ToC** or theory-based models which are widely used and tested in evaluation research and practice. The indicators to be collected are defined so that the impact chains can be checked against IOOI logic. If communal lunches are provided, but older residents do not participate in them at all, then the impact chain is interrupted and

taking measurements at outcome/impact level would only produce misinterpretations.

- The example above is based on the assumption that communal lunches would allow older residents to interact with their fellow residents (and maybe also with external visitors) and that this would have a positive effect on their quality of life. Whether this is actually the case or not could be established by, for example, **surveying the target groups** to find out about their own subjective assessments of their quality of life. If the majority of respondents reported high or increased life satisfaction, then this would be an initial indication that the assumed impact chain was correct. Tried and tested measurement instruments exist for assessing quality of life (e.g. health-related QoL: EQ-5D; life satisfaction: L1 short scale). A (more elaborate) QuIP survey could ask residents and their relatives about the most important changes in their life satisfaction and health over the past X years, in order to look at the causes to which these changes might be attributed and see whether meals can be attributed a causal role in this.
- In order to move from the level of outcomes to the level of **impacts**, we need to establish a comparison between the observed state or the observed change, and the counterfactual scenario, i.e. the state or change that would have been observed, had the activity not taken place. One could imagine that the target groups might have organised their meals independently and/or invited their peers to dine with them, whereas others might prefer to eat alone most of the time. In order to carry out a comparison on this score, one might for example study and then compare the residents' quality of life before and after the introduction of communal dining; or one might compare quality of life between a housing project with, and one *without*, communal lunches, provided that the projects are as similar as possible in all other respects. One might also compare the life satisfaction of residents on days when a communal lunch is offered against satisfaction on days when it is not. Another option could be to let the target groups themselves assess the causal relationships at play, and ask them whether they feel happier after communal lunches than after eating lunch alone. What all these methods, including RCT studies, have in common is that they effect **a comparison with an approximation of a counterfactual** between the counterfactual, which cannot ever be observed directly, and the real, observable state. For this reason, it is important always to consider the possibility that the presumed effects might not be reflected in the observed indicators. For example, frustration with the shared menu, which cannot correspond to all individual preferences, and associated conflict might possibly have an ultimately negative impact on quality of life and health.

In the IOOI diagram (see Figure 11) we have moved from left to right; now we will illustrate how impact measurement can move from top to bottom, within the outcome level. This reflects the requirement to test not only "obvious" outcomes, but also outcomes that are more "distant" and therefore harder to measure outcomes.

- One **indirect**, but equally relevant, effect that is included in the impact model is the change in quality of life among relatives of the older residents. It is conceivable that an improved quality of life and its positive influence on residents' general state of health

(a direct effect) would consequently prove a relief for their relatives (an indirect effect) either by reducing their practical workload or offering emotional relief. Measuring such effects encounters a practical problem, that in addition to measuring subjective quality of life for residents, one would need to collect data from their relatives.

- The importance of examining **medium and long-term effects** is made clear by numerous evaluations, which regularly show that (positive) effects of interventions can diminish over time, even to the point of a complete decline in the effect, even after a short time. SROI studies therefore usually include a reduction rate for effects over time. As a rule, this can only be tested empirically by collecting comparable data repeatedly and over long periods. At the organisational level, this makes long-term, systematic evaluation strategies more important; longitudinal studies would be necessary for scientific research on SI and SI fields, including an SI panel as conceived within the framework of ISI (see the detailed research paper by Terstriep et al. to be published at the end of 2024). In the case given above, impacts on the healthcare system's expenditure on services to residents would be one obvious example of a long-term impact that would require long-term data collection to measure. To do this, it would be necessary to record total healthcare costs incurred by residents over several years and compare them with suitable groups.
- Here, as in many other cases where outcomes and impacts are difficult to measure, an alternative to independent surveys by SI stakeholders is on offer in the form of the use of available academic studies on causal relationships as preliminary evidence; e.g. the positive effect of the quantity and quality of social interactions on health: Fiorillo et al (2011).

Intended and unintended effects

The ToC is usually drawn up mainly from the perspective of the organisation or intervention. It therefore broadly represents an impact strategy that can be found in strategy papers and mission statements, for example. From the perspective of SI field research, an inductive approach would mean that only the existing intended impact chains are summarised, either by aggregating all impact chains or by restricting oneself to typical results chains that are found in the majority of cases. In all these cases, however, models only cover the intended effects. In this context, how could **unintended** impact chains be supplemented? In terms of impact modelling, at least the following ways of proceeding are available:

1. **Exchanges between SI actors,** for example through the use of a shared database of indicators and models, as designed in the ISI project (see Wruk et al., 2024), allow SI actors to learn about impact chains that they had not previously considered in the ToC, but which are used in similar, relevant, SI initiatives. This *learning from peers* can potentially expand the horizon of impact, albeit only to a certain extent.
2. Including **(partially) standardised impact chains and (basic) indicators** in all SI impact models would mean that key impact areas could always be taken into account and therefore positive and negative unintended impacts could be identified (see Figure 13). In the given example, this would mean the communal housing project taking

positive and negative ecological effects into account alongside social (in this case: health) effects. It is possible that preparing communal meals in a communal living project would entail less use of energy and more efficient use of food than individual food preparation at home (but probably not compared to inpatient facilities) because the meals can be prepared and transported in larger batches. Overall, a larger, shared space for meals would have a smaller ecological footprint than many private kitchens and living rooms. Including basic indicators relating to ecological impacts could enable a communal housing project to record and consider these impacts. Of course, it is also conceivable that the opposite might be the case, i.e. that doing this might reveal negative unintended effects.

However, this raises the question of how to delimit these generic impact areas and indicators. There is no objectively correct answer here; the selection and prioritisation of these "standards" is always necessarily a political and normative question. That being said, the Sustainable Development Goals (SDGs) provide a normative framework that has a relatively high level of legitimacy and can also be used to standardise impact measurement.[15] It is important, however, not to "cherry pick" individual SDGs to suit this or that intention or interest. Instead, potential negative effects in other areas should be examined and weighed up against each other. Economic, ecological and social goals *can* fit together harmoniously in individual instances, but the more important question is how these values are to be weighed against each other in (presumably much more frequent) cases when they *cannot* be reconciled, or even when they compete with one another. This inevitably raises the question of **prioritisation**. While scientifically sound impact measurement cannot (and should not) provide definitive answers to these questions, it is true that evidence-based approaches can help provide a more rational basis for making such decisions. *If we know the strength of individual effects, and whom and what they affect, then we can better weigh up these effects against each other.* If it transpires that the communal lunches do not have the anticipated positive effect on quality of life for residents and relatives, but entail significant costs on the input side, then it would appear reasonable to consider more effective ways (i.e. more effective activities) to achieve the intended goals. If, on the other hand, it turns out that the social effects are negligible, but the intervention brings great ecological added value and reduced costs, then communal meals would be assigned a new impact context and could still represent a desirable innovation.

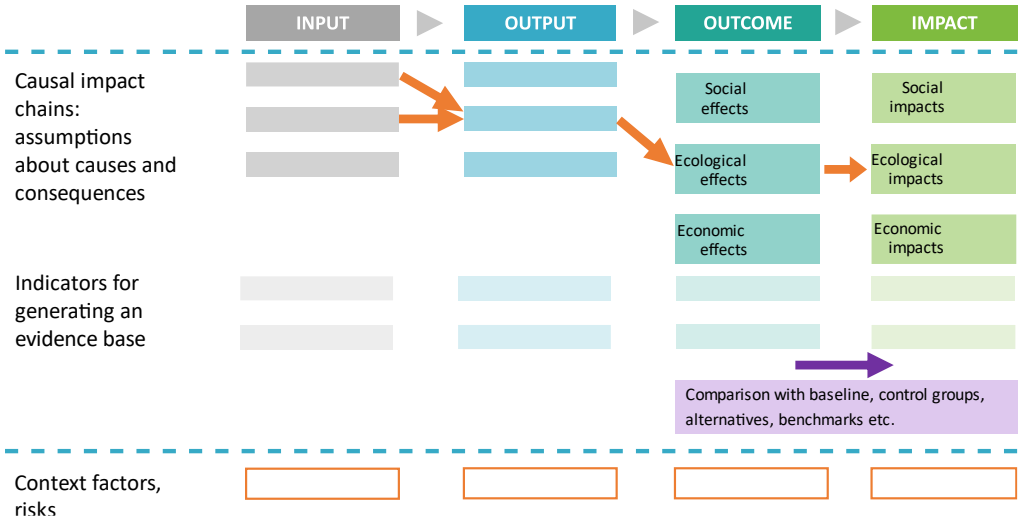
5. Innovation field-specific models for measuring the impact of social innovations

In previous chapters, we have developed a model for measuring the impact of SIs that is largely based on the ToC, which has been expanded to include a requirement to examine long-term, negative and unintended impacts that affect circles beyond the members of the target groups.

[15] There are many frameworks that could serve as a normative reference in this regard, including, for instance, the EU's Social Progress Index. Regarding the social, economic and ecological aspects of the frameworks and indicators: (Strezov et al., 2017).

An "impact model" therefore includes assumptions about causal relationships, presented as impact chains, and also indicators which allow the evidence-based testing and further development of these assumptions (see Figure 12). The basics of these models were developed primarily for application to individual organisations and projects. We now address the question of how these models, i.e. both impact chains and the indicators, can be meaningfully **standardised beyond individual cases**.

Figure 12: Simplified diagram of the generic impact model



Source: Authors' own presentation

There are a range of **advantages** to a standardised approach. First, results could be compared and aggregated, which would benefit innovators, backers and research. Second, it would make it easier to train experts to do impact evaluations. Third, organisations, investors/funders and the general public would find reports and results easier to understand.

The argument against standardised models for SI is that pronounced standardisation cannot do justice to **the many specifics and great diversity of SI and SI stakeholders**.[16] This is especially the case if we apply the very inclusive, expansive SI concept used by the ISI project. The broad range of innovation fields, such as green hydrogen, community-supported agriculture, blockchain and digital education is simply too diverse for impact measurements using a single model or set of indicators. Even when we take a more detailed look at a single field such as community-supported agriculture, many sub-types emerge, which would require dedicated models of their own. Alongside the challenge represented by the diversity of SI, according to the GECES working group on impact measurement, the following arguments can be raised against an all-encompassing "one size fits all" standardisation for social enterprises, and they are also applicable to social innovation (European Commission, 2014):

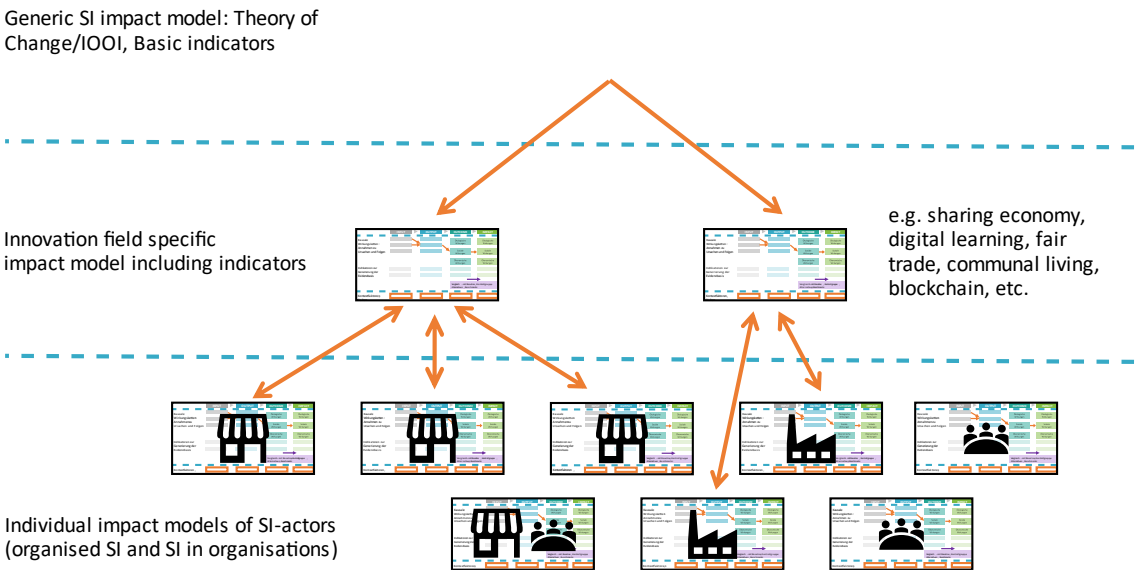
[16] On the standardisation of impact measurement in terms of social enterprises, see: Molecke & Pinkse (2017) and Nicholls (2009). On the range of existing social impact assessment methods and tools see: Grieco (2015).

- There are some widely-used quantitative indicators which often fail to capture certain important qualitative aspects.
- Because impact measurement is so labour-intensive and uses so much data, conflicts over objectives often arise between precision in impact measurement on the one hand, and economic use of (time/staff) resources on the other. Use of resources has to be in proportion to an organisation's size, and to the risks and scope involved in the intervention/innovation being measured.
- Because of the diversity of types of organisation and areas of impact (see above), there can be a trade-off between comparability of the indicators on the one hand and the relevance of these indicators for individual SI actors on the other. However, standardisation can also boost relevance for actors – as we argue below.
- Because impact measurement and SI are subject to rapid change, it is difficult to establish a standard for long-term use.

For this reason, we advocate a pragmatic "medium-range" approach that moves between individualised and fully generalised models by first developing **innovation field-specific impact models**, in collaboration with actors in the field, and then creating possibilities to further generalise and aggregate data.

Establishing solid **impact measurement standards for practical use** in impact-oriented organisations and projects is a mammoth task. Progress is being made on this internationally, but it still remains largely unfinished. If the **aim of social science research** is to assess the effects of SIs on the basis of their real implementation in the field, and not "just" on the basis of individual cases ("proof of concept"), then this task is essential because there is a need for comparable, compatible data. In order to make this task more manageable, we suggest that the diverse and dynamically-changing "ecosystem" of SI should not be dealt with as a whole, but should instead be analysed on a **field-by-field** basis (see Figure 13).

Figure 13: Innovation field-specific standardisation of SI impact models



Infobox 9. Selection of projects for the standardisation of impact measurement

- The i-share project, which was carried out by ifm Mannheim, one of three partners in the ISI project, gave an important boost for the development of the innovation field-specific impact model within the ISI project (Wruk, Oberg, & Friedrich-Schieback, 2019; Wruk & Oberg, 2022).
- The **SINNOVPROC** project has suggested a collection of indicators made up from existing sets of indicators, intended to measure social impacts. The development of an online database is still in the works (Cunha & Benneworth, 2020).
- The **IRIS+ database** first and foremost addresses impact investing as an area, and it is intended to support investors to use benchmarks to make better assessments of the impact of their investments.
- The Centre for Social Impact Swinburne has recently developed and published the **Seedkit tool**, which is principally aimed at charitable organisations and companies which are active in the social sector. The database of indicators is organised according by typical areas of activity and does not (yet) offer benchmarking.
- Also relevant with regard to questions of standardisation is the Canadian **Common Approach** initiative, which is shaped by accounting practices and promotes the idea of "flexible standards". Some standards for data and reporting structures have already been developed, and work is underway on a more comprehensive standardised framework for impact models (https://www.commonapproach.org/common-framework/).
- In Germany, the **FoSInKo project** (which was funded by the INSIGHT programme of the BMBF) has recently developed impact models and indicators for selected innovation fields in the area of sustainable consumption (community-supported agriculture and online resale).

What are "fields of innovation"?

The organisational sociological concept of the "field" has been merged with that of the SI at least twice to date. The DFG-funded Research Training Group "Innovation Society Today: The reflexive production of the new" started with a system-theoretical approach based on Niklas Luhmann and defined SI as innovation in the social subsystem of society, but later replaced this with the term "innovation field" (Windeler et al., 2017; Zieliński et al., 2023) because this classification could not be upheld in research practice. (Social) innovations do not normally come about within specific social subsystems but rather arise through transfers and cooperation between actors or organisations from various areas or sectors. The aforementioned ITSSOIN project (see section 0) drew the same conclusion.

The authors of the ITSSOIN project have also proposed a connection with the concept of the (organisational) field and examined the applicability of several prominent field concepts in organisational sociology (Anheier et al., 2019). One of the difficulties present here is that some of these field concepts assume interactions between the organisations as a necessary condition. Scott (1995, p. 56) defines an organisational field as

> *"a community of organisations that partakes of a common meaning system and whose participants interact more frequently and fatefully with one another than with actors outside the field"*

The same problem arises when we attempt to make use of the concept of *"Strategic Action Fields"* (Fligstein & McAdam, 2011). In an SI field, conversely, it is the implementation of an SI,

or of SIs that are substantially similar, that connects the actors within the field with one another, and distinguishes them from others. The actors in the SI field can be networked with one another, but this is not a necessary condition (Anheier et al., 2019). The idea of the field needs to be adapted, then: or otherwise a suitable existing theoretical construct needs to be found that can meet the requirements developed here. At this point we can only gesture at this theoretical work, and therefore we propose the following provisional working definition of SI fields:

We define **social innovation fields** ("SI fields") as **groups of organisations and other actors that develop, refine or implement social innovations which share key characteristics**. These characteristics include similarities in terms of the specific combination of innovation object and (novel) problem-solving intention (e.g. the SI field "*Wohnen für Hilfe*" ("housing for help"), an innovative form of communal housing arrangement, in which care needs and needs for integration, social cohesion and affordable housing can all be met). Another example of this is the SI field "Sharing Economy" (Oberg et al., 2020; Wruk et al., 2020), which involves actors who make offers for sharing or shared use. The fields can be bracketed together or further differentiated. For example, the sharing economy includes more specialised innovations, such as communal living and platforms for online exchange, which can be differentiated into further subtypes (SI taxonomy; such a taxonomy for SI has not yet been developed).

The SI fields are of great relevance to the ISI project in several respects. On the one hand, research into specific SIs can only be done by observing real innovations in the field. To this end, one needs to identify and analyse the SIs. For this reason, **mapping innovation fields** across sectoral, disciplinary, formal and other boundaries has to be a central task for SI research. For the ISI project, it proved useful to include associations and other networks in the field research, where these were available.

Secondly, it was the ISI project's explicit goal to develop a concept for impact measurement that looks at the possibilities and requirements of SI fields. That is, it had to contribute to organisational impact measurement at the organisational level (see Terstriep et al., 2024; Wruk et al., 2024), while also allowing conclusions to be drawn for SI impact measurement at the societal level. In this respect, the SI field concept is crucially important, in that is a novel approach proposed by the ISI project to the issue of **standardising** SI impact measurement. It therefore lays the basis for the "SI field-specific impact models" being proposed here. The implementation of this concept was trialled in the ISI project on selected innovation fields (see Wruk et al., 2024).

Who should measure the impact of social innovations?

Impact measurement or outcome evaluation of social innovations at the macro level of society cannot be performed by individual innovators. Rather, it requires the application of suitable research, in consultation with stakeholders, and appropriately resourced.

In Germany, *ex-ante* evaluation of the overall societal impact of *technological* innovations is carried out by the Office of Technology Assessment at the German Bundestag (TAB). Alongside technological innovations in the narrower sense, TAB also works with "Media use and eLearning in schools" (2007), "Digital media in education" (2016), online citizen participation in

parliamentary work (2017), "Health apps" (2019) or "Sustainability assessment of agricultural systems – challenges and prospects" (2021), to provide a few examples. While this work is still focused essentially on a particular type of innovation object, i.e. digital and non-digital technologies, impacts on society overall are considered, which includes social and ecological effects. Meanwhile, the Institute for Applied Ecology or Eco-Institute (*Institut für Angewandte Ökologie, Öko-Institut*), specialises in the evaluation of ecological impacts, particularly those of products and services. If we take an expanded understanding of innovation as presented in this research paper, as our point of departure, however, it would be desirable to open up the scope of the evaluation of technology, which is limited to technology and software, to include non-technical innovation objects, so as to produce a general **innovation impact assessment**.

At present, such an innovation impact assessment is obstructed somewhat by the fact that in many cases no systematically collected data is available which could be comparable in terms of content, or comparable across time and space (see Infobox 10). Standardised impact models could help to improve the **data basis** for macro-impact assessment, as they could help generate comparable and aggregable data from SI fields.

Infobox 10. The Oslo Manual's concept of innovation and its implications for data availability

The call for an expanded concept of innovation has made its mark on the international definitional framework for innovation for research and policy. Successive amendments to the Oslo Manual illustrate this fact. The Oslo manual calls for consideration of products and services and names households, third-sector organisations and state institutions – alongside companies – as potential innovation actors. It also calls for SI to be examined and supported. This call still needs to be translated into the practice of systematically collecting innovation data: a practice which today remains very much shaped by a narrow concept of innovation. There has so far, for example, been no systematic data collection on innovation activity by the third sector or by the state ("public innovation") in Germany. Indicators collected in national and international data sets generally focus on the research-technology-business complex: There are figures available which look at expenditure on research and development (commerce, government, science), patent applications (as well as trademarks and designs), proportions of employees in certain areas (especially STEM), innovativeness of companies (especially self-reported data on innovative products and services), cooperation between companies and external organisations, and figures around scientific publications (mostly limited to STEM areas). Comparable data on the third sector, the state and households is lacking, as is data on non-organised innovations or on innovations oriented for non-profit use specifically. It is hard to see how it could be possible to promote SI more in Germany, so long as these gaps in data and knowledge persist. For a discussion of innovation indicators and the Oslo Manual, see Mihci et al. (2020), Beers et al. (2015), Gault (2023), Krlev et al. (2014), OECD & Eurostat (2018), Terstriep et al. (2021), among others.

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Appendix

Appendix A The three frames for the term SI based on selected concepts of social innovation

Social Innovation, Transformative Social Innovation

Pel, Bonno, Alex Haxeltine, Flor Avelino, Adina Dumitru, René Kemp, Tom Bauler, Iris Kunze, Jens Dorland, Julia Wittmayer, and Michael Søgaard Jørgensen. "Towards a theory of transformative social innovation: A relational framework and 12 propositions". *Research Policy* 49, no. 8 (1 January 2020): 104080.

The starting point for the definition of SI lies in delimiting social innovations from technological ones (Pel et al., 2023, p. 36), whereby what is "social" in SI is defined very broadly, including the social dimension (practices, processes, relations) of technology: "This relational approach emphasises that social innovations comprise new ways of doing (practices, technologies, material commitments), organizing (rules, decision-making, modes of governance), framing (meaning, visions, imaginaries, discursive commitments) and knowing (cognitive resources, competence, learning, appraisal) (Haxeltine et al., 2015; Chilvers and Longhurst, 2016)." (Pel et al., 2020, p. 3) Examples of technological innovations, then, include renewable energy systems, artificial intelligence and nanotechnology; and participatory budgeting, ecovillages, time banks, social entrepreneurship, slow food, degrowth, circular economy and the economy for the common good are given as examples of SI (Pel et al., 2023, p. 36).

According to this understanding of SI, goals or intentions explicitly should not be included in the definition: "SI is a qualitative property of ideas, objects, activities or (groups of) persons, who can be considered to be socially innovative to the extent that they contribute to changing social relations. This definition breaks with the many teleological understandings of SI (Cajaiba-Santana, 2014), and especially with those in which the 'social' refers to desirable purposes, designated beneficiaries and ideological programmes (e.g. Hubert 2010; Moulaert et al., 2013; Unger, 2015). This normative idealism reproduces the 'pro-innovation bias' in innovation studies (Godin and Vinck, 2017), neglecting not only the innovation-theoretical insights on unintended consequences and path dependency but also the paradoxes and 'dark sides' of social change (Swyngedouw, 2005; Westley et al., 2017; Fougère and Meriläinen, 2019). We have therefore adopted a non-teleological, sociological focus on changing social relations (Jaeger-Erben et al., 2015; Rammert et al., 2018)." (Pel et al., 2020, p. 3) In terms of the conceptual framework presented in the ISI project, one could argue that examining intentionality and impact as a way of understanding SI does not fit with restricting SI to specific, "normatively" set objectives, and therefore it does not necessarily mean that unintended or negative effects of SI should be excluded from the investigation.

This SI concept serves as the basis for the idea of "Transformative Social Innovation". TSI goes beyond SI in that SI are viewed in terms of overall social transformation processes and are analysed in relation to their relevance to those processes. Only those SIs that have a transformative, disruptive effect, in particular by "challenging, changing or replacing" existing institutions are categorised as TSIs. TSIs stand in contrast with regular, incremental SIs, which can

contribute to the maintenance of existing institutions. On the TSI/SI distinction, see: (Pel et al., 2023, p. 3). In this respect, although this understanding of SI is "agnostic" towards the intentions associated with a given SI, it excludes any SIs whose effect is not transformative from being counted as TSIs.

Frame 1 "social" innovation object	SIs are differentiated from technological innovations, but there is a very broad definition of what is "social".
Frame 2 "Social" intentions	Explicit differentiation from SI definitions that use this frame. However: from the point of view of the TSI idea, only SIs that challenge, change or replace existing institutions (impact) are relevant, which then makes the associated intentions relevant.
Frame 3 "Social" participation	Both participative and non-participative. But: Individual and collective "(dis-) empowerment" in SI initiatives is an essential element of the TSI concept.

Phills, Deiglmeier & Miller (2008)

James A. Phills, Kriss Deiglmeier, and Dale T. Miller. "Rediscovering Social Innovation". *Stanford Social Innovation Review* 6, no. 4 (2008): 34–43. https://doi.org/10.48558/GBJY-GJ47.

"A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals."

Frame 1 "social" innovation object	Explicitly no restriction. The following examples are listed: Products, production processes, technologies, principles, ideas, laws, social movements, interventions or a combination of these. (p. 39)
Frame 2 "Social" intentions	The criterion for "social" innovations is that they must represent "new solutions to social problems" which are "more effective, efficient, sustainable or just than existing solutions and where the added value they create is of benefit to society as a whole in the first instance, rather than private individuals" (p. 39, our translation). The defining criterion for SI is therefore an orientation towards the common good.
Frame 3 "Social" participation	No criterion. Explicitly both individual actors (such as social entrepreneurs) and large, established organisations from all three sectors (state, market, third sector).

SI Drive Project

Howaldt, J., & Hochgerner, J. (2018). Desperately Seeking: A Shared Understanding of Social Innovation. In *Atlas of Social Innovation-New Practices for a Better Future* (Number 1). https://www.socialinnovationatlas.net/fileadmin/PDF/Atlas_of_Social_Innovation.pdf

"With the aim to develop a theoretically sound concept of social innovation the SI DRIVE project focusses on *social practices* as the central object of analysis. Taking its cue from Schumpeter's basic definition of innovation, *social innovation* is seen as a new *combination of social practices* in certain areas of action or social contexts. What distinguishes social innovations from other manifestations of social change is that they are driven by certain actors in an intentional, targeted manner with the goal of better satisfying or answering needs and problems than is possible on the basis of established practices. An innovation is therefore social to the extent that it is socially accepted and diffused in society or certain societal sub-areas and ultimately becomes institutionalised as new social practice. Just like any innovation social innovation does not necessarily provide impact that is 'good' for all or 'socially desirable' in an extensive and normative sense [3]." (Howaldt & Hochgerner, 2018, p. 19)

This concept uses the notion, itself based on sociological theory, of "social practices", in order to make SI comprehensible as a type of innovation which goes beyond technological innovations but fundamentally includes them (->> Infobox 3). In relation to intentions, no explicit distinction is made between "social" and "non-social" intentions (for example: not oriented towards the common good) as a basis for defining SI. The kind of social challenges which the SI in question solves "better" are not theoretically very limited: they are defined quite broadly. The framework is formed by the "social, economic, political and environmental challenges of the 21st century" as seen on a global level (p. 18). As things progress, however, the range of the "challenges" is nevertheless substantially reduced to those problems which can be regarded as "social" and/or "ecological" problems in terms of the SDGs ("social integration through education and poverty reduction, sustainable patterns of consumption, coping with demographic change" p.18), so that despite declarations to the contrary, Frame 2 is still applicable in respect of this SI definition (otherwise, for instance, "cum-ex" would also be an SI, because it better meets banks' need to make profits than do other practices, etc.).

Frame 1 "social" innovation object	SIs are "reconfigurations of social practices" that can be technology-based (e.g. recycling) or generally achievable without any need for technology (e.g. integrated care, social welfare). An integrated concept of "socio-technical innovation" is aimed at, but the difference between social and technical innovations is being upheld all the same (p. 20).
Frame 2 "Social" intentions	Intentionality is a defining criterion of SI and helps differentiate it from social changes (p. 19). SIs aim at "better satisfying or answering needs and problems [elsewhere: societal challenges] than is possible on the basis of established practices". The nature of these social challenges is not specified. The assessment of the effects of SI as "good" or "bad" often varies depending on one's point of view (e.g. different generations) and does not limit the subject of SI (p. 19).
Frame 3 "Social" participation	"Agency" is an indispensable part of SI and "empowerment" is formulated as a desirable goal, at least. But "agency" is a broad concept: alongside participatory development/creation of SI, it may include less-essential forms of "user involvement" such as "provision of feedback" (p. 19).

Regulation (EU) 2021/1057 of the European Parliament and of the Council of 24 June 2021 establishing the European Social Fund Plus (ESF+) and repealing Regulation (EU) No 1296/2013

http://data.europa.eu/eli/reg/2021/1057/oj

The definition of SI used by the European Union at the time of publication of this paper (November 2024) based on the BEPA publication (2010). For an earlier version see: http://data.europa.eu/eli/reg/2013/1296/oj

Social Innovation Match (SIM) database with case studies for SI: https://european-social-fund-plus.ec.europa.eu/en/social-innovation-match

This definition incorporates all three frames presented in the ISI project and thus renders "social" relatively narrow:

"Article 2. Definitions. (1. For the purposes of this Regulation (...) 'social innovation' means an activity, that is social both as to its ends and its means and in particular an activity which relates to the development and implementation of new ideas concerning products, services, practices and models, that simultaneously meets social needs and creates new social relationships or collaborations between public, civil society or private organisations, thereby benefiting society and boosting its capacity to act;"

Frame 1 "social" innovation object	A broad spectrum of (tangible/intangible) objects is listed: "... activity relating to the development and implementation of new ideas for products, services, processes and models..." The SIM database principally contains non-technological, intangible innovation objects, but also some technologically-based innovations (e.g. the online game "Three Cubes" which is based on Minecraft and contains educational elements, or an augmented-reality programme designed to raise awareness around health, "Exocogs").
Frame 2 "social" intentions	A "social objective", i.e. intention, and the fulfilment of a "social need" are defining criteria of SI. "Social" objectives relate, for instance, to integration of excluded groups, fighting against poverty, measures relating to labour market policy, education, health and well-being, diversity; but not environmental issues (SIM).
Frame 3 "social" participation	"...which (...) creates new social relationships or collaborations between public, civil society or private organisations, thereby benefiting society and boosting its capacity to act". The participatory character, or at least collaboration at the organisational level, and the potential for empowerment are a necessary criterion for SI in the EU definition.

Appendix B The ministerial concept for social innovations from the perspective of the ISI system

The joint "Ministerial Concept on Social Innovation"[17] refers to the SI concept of the High-Tech Strategy and expands upon it. It also forms the basis for the concept of SI in the "National Strategy for Social Innovation and Enterprises for the Common Good", which was published recently. For that reason, we quote the relevant passage at length here:

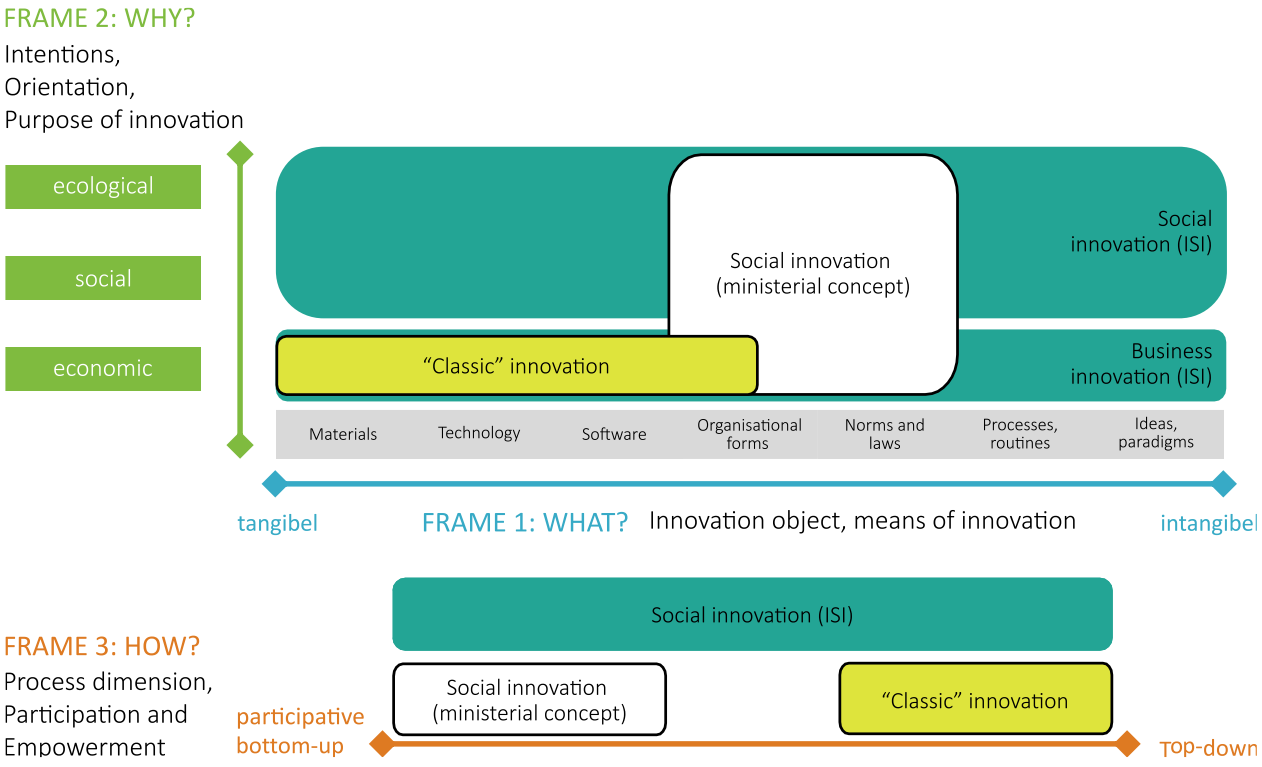
"The Federal Government promotes innovation as a means of overcoming social challenges and promoting coexistence. It acts in furtherance of its aspiration that innovations should serve people and help them participate in society. This aspiration is based on a comprehensive understanding of innovation, which explicitly includes social innovations."	SIs are associated with the function of overcoming social challenges. SIs are understood as being part of a broader category of innovation, as per the approach of the ISI.
The High Tech Strategy 2025 of the German federal government describes social innovations as follows: "Social innovation encompasses new social practices and organisational models that aim to find feasible, sustainable solutions to the challenges confronting our society."	Explicit mention of two possible innovation objects: Social practices and organisational models (Framework 1: Innovation objects; see section 0)
Social innovations are expressed in a range of economic, social and cultural innovations, and they may or may not be organised commercially or for the common good. They solve social problems differently and possibly better than prior practices do. They have value in their own right, and can arise independently of technology or be supported and accompanied by technological innovations. And conversely: technological innovations come about as things driven by society, or be generated by social innovations.	The commercial organisation or orientation of an SI is not an exclusion criterion (provided the SI tackles social problems). The innovations can be "economic, social or cultural", which may be interpreted as per Framework 2 (intentions; see section 0). Clear distinction between technological and social innovations (Framework 1: innovation objects; see section 0).
Social innovations must be oriented to social needs. They promote successful social change. They usually emerge from within society, when motivated citizens become active and translate their ideas into social action. The creativity which is thereby unleashed represents a decisive driving force for innovation, across its whole spectrum. Social innovations are therefore essential for our society's future viability and innovative capacity.	SI in large part ("mostly") comes about thanks to bottom-up initiative by citizens and society's creative power (Framework 3: participation; see section 0).
In addition to having ecological and social impact, social innovations can have an economic impact, by reducing costs for the individual or the community. Social innovations can also create new jobs, open up new areas of activity in existing fields of work	Explicit mention of ecological, social and economic impacts (but not necessarily an orientation or intention). Therefore, the SI concept is limited to certain effects.

[17] Bundesministerium für Bildung und Forschung (bmbf) 2021.

and can give rise to completely new categories of job, markets and value creation.	
Social innovations can be disruptive and radical. They can improve things as they exist at present, but they can also have undesirable side effects. Social innovations and their impacts therefore need to be considered holistically, in the round. (...)	Gradual vs. disruptive innovations; we have left out this distinction from the ISI system. Mention of possible negative effects.
Social innovations work by supporting people, e.g. by means of new care concepts; by empowering people to help themselves, e.g. by means of mentoring concepts; by creating new opportunities (e.g. by means of new application options for technical devices); or by setting up new networks – e.g. via digital platforms – and connections; or by setting up new organisational structures such as digital business models or forms of cooperation (e.g. in innovation labs). Previous examples of social innovations range from microcredits to multi-generational houses. More recent examples of social innovation include iterations of the sharing economy idea such as car sharing, clothes swaps or social initiatives such as mundraub.org (digital map for streuobst [scatter-sown] orchards), social services or supply concepts in agriculture, the open-source movement or sponsorship schemes for senior citizens."	Mention of further examples of SI: Care concepts, mentoring concepts, networks, platforms, organisational structures, business models, forms of cooperation, etc. (see notes). Can be read as a more concrete form of 2. (Frame 1: Innovation objects; see section 0)
This National Strategy also stresses the need for a reliable impact measurement system for social innovations (and for social enterprises): "Social innovations and social enterprises aim to use their solutions to impact society. The broadening-out of the funding focus to cover groups of social actors has led to a more systematic and professionalised consideration of the repercussions of social change. Currently, however, there are no generally-accepted indicators and models for accounting for social, ecological, political or cultural impacts. Ultimately it is necessary to consider that it is not currently possible to simply measure all the various forms of social impacts. Moreover, for social enterprises it is a costly undertaking to measure and represent their efficacy, notably because there are no uniform standards for so doing. (...) Social impact is an elementary component of social innovation and of social enterprises. It is therefore important to make impacts more visible and measurable, to disseminate appropriate standards for measurement and to impart skills." (Bundesministerium für Wirtschaft und Klimaschutz (BMWK), Bundesministerium für Bildung und Forschung (BMBF) 2023, S. 42)	The objective of the ISI project meets this requirement. Further notes in chapter 0 SI impact measurement at the micro level:

Localisation of the SI concept of the joint ministerial concept in the ISI system

Figure 14: Ministerial concept in the ISI system



Appendix A Literature selection

I. Overview of the history of concepts and the state of research into social innovations (selection)

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