INDICATORS FOR MEASURING SOCIAL INNOVATION

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

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INTRODUCTION

Social innovation relates to new forms of interaction, cooperation, governance and knowledge generation. Compared to commercial innovation, it comprises a broader variety of actors and hybrid business models. Research on social innovation has made progress in recent years. However, the measurement of social innovation is a neglected area for which we lack valid indicators.

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

ORGANISATIONAL INNOVATIVENESS

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

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

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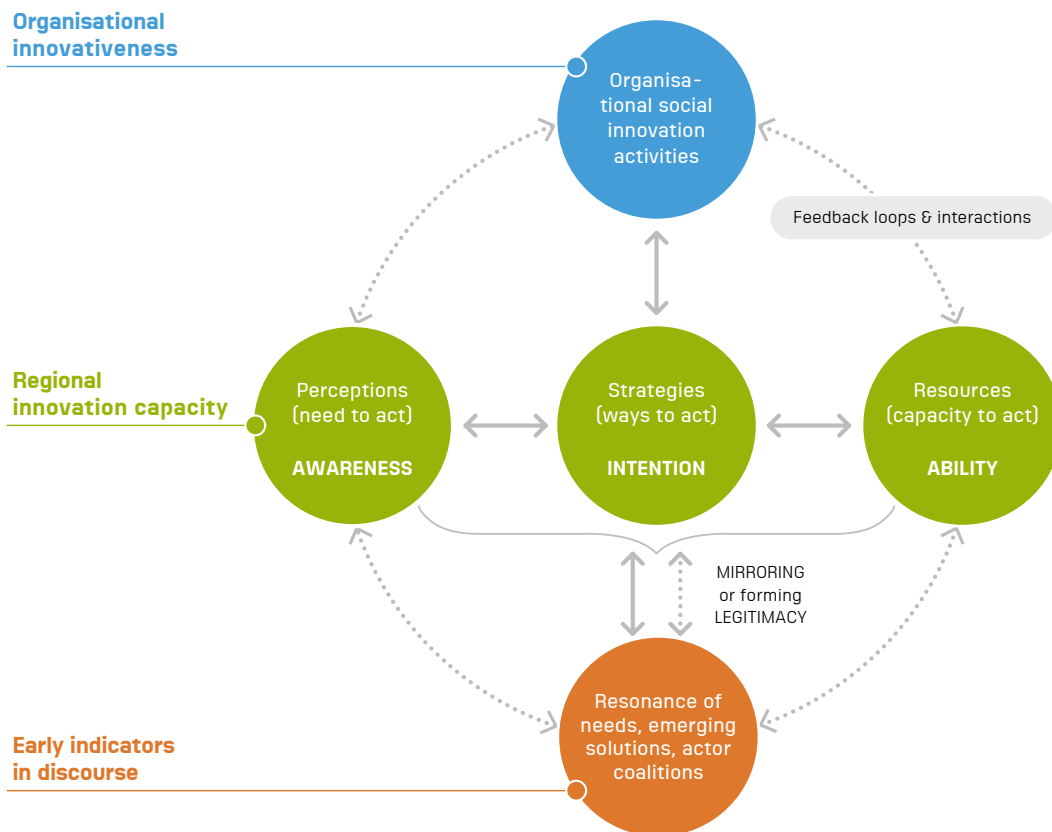
The three levels of social innovation measurement

indicators are designed to give insights into the social innovation performance by examining the innovation intensity (number of implemented solutions) and the innovation scope (number of people reached by the innovation). The identification of outcome indicators is more difficult against the background that organisations are surveyed only. Further, the transition into established structures and the diffusion into other contexts (imitations & scaling) is collected.
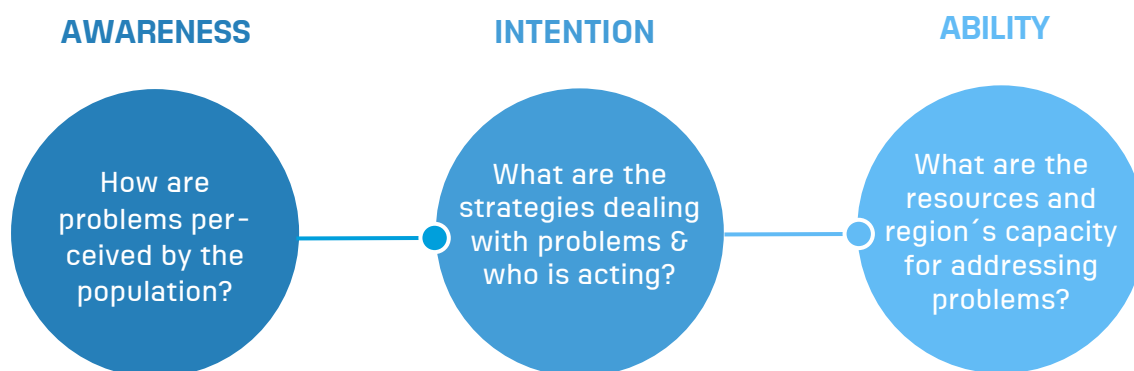
4. *Business model:* The fourth indicator block belongs to decision processes working on financial aspects, factors of growth and digitalisation as cross-sectoral topic. Among financial aspects, we differ between resources, income and expenditures. Indicators describing factors of growth comprises the potential to growth, reasons for expansion, consequences of growth and production indicators.

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

REGIONAL INNOVATIVENESS

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

AWARENESS

INTENTION

ABILITY

How are problems per-ceived by the population?

What are the strategies dealing with problems & who is acting?

What are the resources and region´s capacity for addressing problems?

Regional social innovation capacity

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

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

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

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

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

EARLY INDICATORS OF SOCIAL INNOVATION

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

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

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

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

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

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

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

SUMMARY

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

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