RAM. Revista de Administração Mackenzie
ISSN: 1518-6776
ISSN: 1678-6971
Editora Mackenzie; Universidade Presbiteriana Mackenzie

Cunha, Jorge; Alves, Wellington; Araújo, Madalena
Challenges of impact measurement in social innovation: Barriers and interventions to overcome1
RAM. Revista de Administração Mackenzie, vol. 23, no. 6, 2022, pp. 1-32
Editora Mackenzie; Universidade Presbiteriana Mackenzie

DOI: https://doi.org/10.1590/1678-6971/eRAMD220077.en

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
Special Issue, https://doi.org/10.1590/1678-6971/eRAMD220077.en
Submitted: Apr. 3, 2022 | Approved: Aug. 18, 2022

Challenges of impact measurement in social innovation: Barriers and interventions to overcome[1]

Desafios na medição do impacto da inovação social: Barreiras e intervenções para superar

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To cite this paper: Cunha, J., Alves, W., & Araújo, M. Challenges of impact measurement in social innovation: Barriers and interventions to overcome. *Revista de Administração Mackenzie*, *23*(6), 1–32. https://doi.org/10.1590/1678-6971/eRAMD220077.en

[1] This work has been supported by Fundação para a Ciência e Tecnologia (FCT) within the Project Scope: PTDC/EGE-OGE/31635/2017.

ABSTRACT

Purpose: This paper reviews extant research related to the impact assessment of social innovation and identifies several barriers to this assessment. Following this is a proposal of interventions to overcome these barriers.

Originality/value: Social innovation has played an essential role in enhancing positive changes for society. Nonetheless, measuring its impact is a very significant challenge due to the many barriers faced in selecting metrics that fit its definition and goal. Recognizing these challenges, the main contribution of this paper was to identify the most common barriers and to suggest how these barriers can be overcome.

Design/methodology/approach: Two approaches were considered in this research. On the one hand, a bottom-up approach was applied to review relevant literature related to impact metrics for social innovation and good practices toward social innovation impact assessment. On the other hand, we used a top-down approach through collecting and analyzing research projects related to identifying metrics of social innovation impact, broadly disseminated and well-consolidated in the current literature.

Findings: This research offers valuable insights to academic researchers, policy decision-makers, and practitioners working in the field of social innovation by identifying and classifying the main barriers faced to measuring the impact of social innovation, namely lack of stakeholder awareness in the field of social innovation, difficulties in selecting the metrics to assess social innovation, problems in selecting criteria to identify best-fitted indicators to social innovation, lack of beneficiaries engagement, lack of financial and public support, and lack of consensus in the social innovation definition.

Keywords: social innovation, impact measurement, barriers, social impact, social value

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

RESUMO

Objetivo: Este artigo revisa pesquisas existentes relacionadas à avaliação do impacto da inovação social e identifica várias barreiras para essa avaliação. Em seguida, são propostas intervenções para superar essas barreiras.

Originalidade/valor: A inovação social tem desempenhado um papel importante na promoção de mudanças positivas para a sociedade. No entanto, medir seu impacto é um desafio muito significativo devido às muitas barreiras enfrentadas na seleção de métricas que se encaixam em sua definição e objetivo. Reconhecendo esses desafios, a principal contribuição deste artigo foi identificar as barreiras mais comuns e sugerir como elas podem ser superadas.

Design/metodologia/abordagem: Duas abordagens foram consideradas nesta pesquisa. Por um lado, aplicou-se uma abordagem *bottow-up* para revisar a literatura relevante relacionada a métricas de impacto para inovação social e boas práticas para avaliação de impacto de inovação social. Por outro, utilizou-se uma abordagem *top-down*, por meio da coleta e análise de projetos de pesquisa relacionados à identificação de métricas de impacto da inovação social, amplamente difundidos e bem consolidados na literatura atual.

Resultados: Esta pesquisa oferece *insights* valiosos para pesquisadores acadêmicos, decisores de políticas e profissionais que trabalham no campo da inovação social, identificando e classificando as principais barreiras enfrentadas para medir o impacto da inovação social, ou seja, a falta de conscientização das partes interessadas no campo da inovação social, dificuldades para selecionar as métricas para avaliar a inovação social, dificuldades para selecionar critérios para identificar indicadores mais adequados à inovação social, falta de engajamento dos beneficiários, falta de apoio financeiro e público e falta de consenso na definição de inovação social.

Palavras-chave: inovação social, medição de impacto, barreiras, impacto social, valor social

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

INTRODUCTION

In the coming decades, the use of new technologies, such as digitalization, industry 5.0, and sustainable and clean energy, will play a key role in supporting governments and industries to overcome pressing social problems faced by society. Problems related to the scarcity of resources, the transition to sustainable energy, and demographic change, are the main concerns for the next decades. In this sense, social innovation (SI) can be seen as an important approach to contributing to responding to these societal challenges (Mildenberger et al., 2020).

The concept of social innovation has emerged as an important activity to enhance social value creation for both companies and communities and thereby contribute to socio-economic inclusion (Weaver & Marks, 2017). Over the last years, the concept of SI has been increasingly popular in the policy and public debate due to the relevance that it can play in generating inclusive growth as well as empowering people towards enhancing positive changes for societies (von Jacobi & Chiappero-Martinetti, 2017).

As a key driver for social change, SI is believed to lead to sustainable outcomes for society. The topic's relevance has become even more important due to the possible contribution of SI initiatives to support sustainable development and foster actions toward the framework of the United Nations' sustainable development goals (SDGs). In this direction, the breakthrough of SI can contribute to meeting the objectives of the SGDs in different areas; it can be justified due to the possibility of fomenting initiatives in different areas and sectors of activity (Nylund et al., 2021).

However, being a relatively new and complex concept, measuring the impact of SI actions and practices is a very significant challenge for researchers. Also, empirical evidence on the potential social impact of social innovation is still scarce for guiding investigation in this field (Antadze & Westley, 2012; Organisation for Economic Co-operation and Development – OECD, 2010).

Despite the interest and popularity of measuring the social impact of SI initiatives, the development of reliable and shared measurement practices has emerged as a barrier to the widespread adoption of those SI initiatives (Unceta et al., 2020). According to Rawhouser et al. (2019), the use of metrics to assess social impact aims to measure the magnitude of its implications in a particular context, ranging from research and development to sustainable initiatives. Nonetheless, the authors also argue that quantifying these initiatives requires a precise specification to which social outcomes are compared and a robust specification of the measures used to evaluate the context.

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The current literature has various metrics for measuring social impact, and each method presents different approaches and characteristics. Yet, the choice for the metrics depends on the context that will be used, and also the type of impact analyzed, which configures a gap inherent to the process of measuring the impact and value created in the domain of SI (Perrini et al., 2021).

Thus, the main objective of this paper is to identify the most common barriers discussed in the previous literature in this field and then to propose a set of interventions that help to overcome those barriers. Moreover, for both the identified barriers and interventions, a typology is proposed that allows them to be classified and makes their interpretation more useful and meaningful for researchers, policymakers, and practitioners. Therefore, the contribution of this paper to the literature is twofold. Firstly, by providing empirical evidence on barriers to measuring the social impact of social innovation, namely in terms of different contexts, financial support, the complexity of defining SI, selection of criteria to select indicators, and awareness in the field of SI, among others. Secondly, by suggesting an empirical intervention to overcome the listed barriers, focusing on a set of research related to SI available in the current literature.

The remainder of this paper is organized as follows. The second section begins with a literature review presenting this study's relevance and the challenges of measuring the social impact of SI. The third section outlines the methodological approach for this paper. Key results are described and discussed in the fourth section. Finally, the last section presents the main conclusions highlighting the lessons learned.

THEORETICAL BACKGROUND

According to Bund et al. (2015), the term innovation originated from industrialization, mainly related to technological inventions. Therefore, over the years, efforts have been made to operationalize the concept in evidence-based policymaking to make the term innovation more tangible. The growing importance of social issues, mainly the concern with a more inclusive and sustainable development, brought together the terms social and innovation within policy and academic circles.

In the last decades, technological and economic innovations have been seen as one of the most important contributions to societal well-being through the generation of employment and economic growth (Rehfeld et al., 2015).

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Nonetheless, to tackle the social and economic challenges that society is facing today (namely, what has been known as the great challenges of the 21st century), that kind of innovation is not enough. Several authors (e.g., Mulgan, 2019; Banerjee et al., 2019; Benneworth & Cunha, 2015; Gabriel et al., 2015) claim that addressing those societal challenges calls for a new type of innovation: social innovation. This can be considered a tool to empower society due to the SI process expectations of producing effects in the societal changes or at least putting it under pressure (von Jacobi & Chiappero-Martinetti, 2017).

Nowadays the SI process has gained importance due to the possibility of overcoming social problems not deep-rooted by traditional solutions. Social needs and solvency problems became mainstream regarding education, social mobility, trust, and community life. SI has been seen as an alternative to overcome these social issues (Dainienė & Dagilieė, 2016).

According to Cunha and Benneworth (2020), the current literature on the idea of social innovation has grown sharply over the last decade, with researchers seeking to define its concept by presenting several examples of successful social innovations (Cunha & Benneworth, 2020). SI literature has been mainly seen as a practical led field of research.

Despite being a complex issue to address, SI has the potential to deal with social and environmental problems where conventional frameworks have been ineffective (Antadze & Westley, 2012). Over the last decades, researchers, who have been investigating the field of social impact and SI, have brought different methods to light that aim to measure social impact, some of which are well-known and useful to be applied to a range of sectors. Each approach offers advantages and disadvantages for social impact measurement (Perrini et al., 2021). Regarding the process of measuring social impact, these authors suggest a set of steps that can be used as a guide to evaluate social impact, summarized in Table 1.

Table 1

Process for measuring social impact

Steps	Measurement process	Analyzing benefits	
Set the objectives	It involves the definition of the main subject to be analyzed. It may consider a specific project, society, or enterprise.	Inputs	List the resources, costs, and investments incurred in the process.

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https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 1 (conclusion)

Process for measuring social impact

Steps	Measurement process	Analyzing benefits	
Set stakeholders	The analysis must consider comparing the ex-ante and the ex-post situations. In this case, there is a need to identify the change produced, and it is necessary to map the main stakeholders.	Activities	Point out interventions that will be carried out to improve people´s lives.
Set the appropriate metrics	Understand the context of the application, analyze the possibility of getting data, and link the context undertaken and the possible impact created. It can consider quantitative and qualitative metrics.	Outputs	List the expected results of the activity provided.
Measure	Evaluate the outcomes obtained through the selected metrics.	Outcomes	Represent the possible changes achieved for the beneficiaries.
Report the results	Communicate the results to external and internal stakeholders, and compare the change obtained.	Impacts	Put in evidence the outcomes of the change that would have happened regardless of the social value.

Source: Adapted from Perrini et al. (2021).

The process in Table 1 summarizes steps to be followed when measuring social impact. Therefore, several barriers can be faced in the process. Namely, lack of data and subjective judgment are the main aspects that need attention in the process (Bozsik et al., 2021; Bund et al., 2015; Gasparin et al., 2021).

In the case of social innovation initiatives, it also exerts pressure on social forces, predicting when exactly their effect will happen. However, predicting when institutional change could happen (Antadze & Westley, 2012) is difficult. Due to many societal problems faced by modern society, such as access to public services, inequalities, climate change, and demographic change, the evaluation of the impact of social initiatives in these areas has become a significant aspect in tackling the challenge of understanding the social impact of SI (Mildenberger et al., 2020).

In this sense, to assess the impact of social innovation initiatives or projects, it is important to remember that this process has different lifecycles and requires different evaluation times. For example, Benneworth and Cunha (2015) proposed a model to understand the social innovation process involving

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a series of interlinked stages inspired by the non-linear technological innovation model in the most generic sense. This model captures the overlap, interaction, and different ordering of activities, the variety of sources and inputs, and the multiple relationships underlying the innovation process (Russell & Williams, 2002).

SI has been considered a key driver of economic and development growth (Ates et al., 2019; Vasin et al., 2017), that is, to achieve sustainable development. Yet, SI is a complex, dynamic and socio-economic phenomenon that needs to be approached holistically to be adequately measured and assessed (Carayannis et al., 2018).

Von Jacobi and Chiappero-Martinetti (2017) argue that the assessment of the consequences which SI initiatives can deliver is based on two key aspects, namely: 1. the benefits which will be generated at both social and individual levels and 2. the importance to provide a broader account of the potential impact generated by SI focusing tangible and intangible effects.

Also, Bund et al. (2015) suggest that to measure SI impact, different perspectives should be taken into account, such as the innovation performance of projects and the innovativeness of the organizations. Furthermore, the innovativeness of spatial units, such as the societies, should be accounted for, which can be analyzed at national (macro), regional (meso), or municipal (micro) levels.

In a similar line of reasoning, Cunha and Benneworth (2020) propose a conceptual framework model to measure the impact of SI. These authors claim that this framework helps to identify the most significant indicators for capturing and assessing the effects of SI while recognizing that the selection of these indicators should be seen as an iterative process, establishing cause and effect relationships between actions and results and simplifying the complexity of the measurement process. In the conceptual model proposed, the impact of SI is conceived as a set of results that manifests through different periods, at different spatial scales, and must consider the value experienced by beneficiaries and all stakeholders involved, which implies a large set of indicators, categorized in several dimensions, to capture the impact of SI completely. In turn, Cunha et al. (2019) investigate the literature regarding SI impact assessment and discuss the challenges posed by measuring that impact and how these measurement approaches may change the assessment process. Their analysis found that methodologies for measuring the impact of SI have been mainly undertaken in Europe and confirmed the lack of SI frameworks, methodologies, and metrics capable of measuring the social impact of SI.

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As SI is considered a forefront approach, the current literature still fails to deliver frameworks or methodologies that measure the impact of SI initiatives. However, some recent initiatives are available. For instance, the Simpact project aimed to analyze several European projects in the area of SI and proposed a methodological tool to analyze the impact of the selected projects (Simpact, 2014); CrESSI is a project that aimed to examine the effect of projects focusing on initiatives related to an inclusive and sustainable society in Europe (Nicholls, 2017); SI-DRIVE was a project that investigated over 1,000 cases worldwide associated with SI, where the main output of the projects focused on contributing to improve the theoretical and empirical context of SI (Howaldt & Schwarz, 2016).

Yet, despite all these projects significantly contributing to a better understanding of the importance of measuring the impact of SI, they mostly take place in organizations or projects with social goals. However, Gasparin et al. (2021) claim that SI can also be used as a driver to support competitive advantages from different sectors, ranging from technology, science, and companies. Once the sector responds positively to social needs and seeks to contribute to societal change, the action and its impact should be investigated in the light of SI definition (Mongelli & Rullani, 2017; Nicolopoulou et al., 2017).

In this comprehensive background, the current literature offers different streams for SI. However, three of them seem clear. Firstly, the importance of the topic (social innovation) is to overcome the barriers related to social changes. Secondly, the linkage of SI and SGDs is still little explored in the literature. Thirdly, the challenge of the impact measuring of SI is precisely the focus of this research (García-Jurado et al., 2021; Rodrigo & Palacios, 2021). Notwithstanding the complex challenge of developing metrics to measure the impact of SI initiatives, it is evident that these initiatives have been contributing to improving people's lives, which means that it is even more important to investigate SI metrics, only thus it will be possible to understand the real impact of SI on the society (Mihci, 2020).

METHODOLOGY

Two paradigms were considered in this research to address the problem being studied. On the one hand, a bottom-up approach is widely used to analyze individual concepts from a global perspective to a specific one, precisely the case of this research. This approach was applied considering the relevant literature on impact measures for SI and good practices for SI impact

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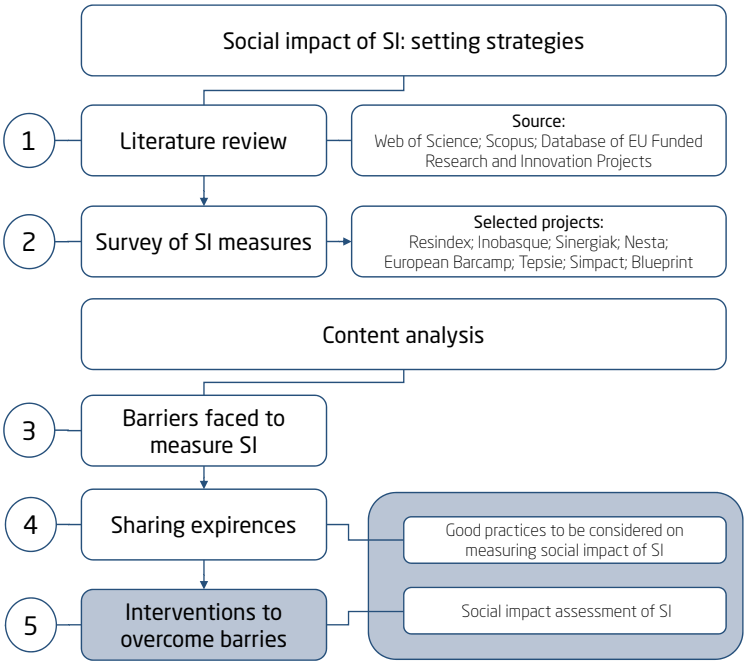
assessment. On the other hand, a top-down approach relies on looking forward to analyzing a big picture of the concept of SI to a smaller one, namely measurement and practices related to this topic. In this research, a top-down approach was used to collect and analyze research projects related to identifying metrics of SI impact, broadly disseminated and well-consolidated in the current literature.

The data were then analyzed in the light of content analysis. According to Bengtsson (2016), this approach is used in qualitative research to organize and prompt data implications from data collected and then draw new findings. The use of content analysis can also be considered a useful research strategy that allows researchers to investigate previous analyses, to get further results from the empirical findings. It is also an alternative to the traditional narrative of research studies (Hsieh & Shannon, 2005). As the results come from different individual sources, a content analysis was conducted to analyze and categorize them systematically.

Figure 1 summarizes the stages carried out to develop this research as well as the methodological approach applied.

Figure 1

Methodological approach



Source: Elaborated by the authors.

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https://doi.org/10.1590/1678-6971/eRAMD220077.en

Stage 1 is based on the literature review, which provides the fundamentals of the research. Stage 2 focuses on the main identified impact measures for SI discussed in the selected projects. Stage 3 starts picturing a meta-analysis of the results obtained from stages 1 and 2 and summarizes barriers faced to measure SI impact. Stage 4 presents a set of good practices that we recommend being considered when evaluating SI impact. Finally, Stage 5 proposes interventions to overcome when developing metrics to assess SI.

Survey of social impact measures

The first step developed in this research aimed to select a set of studies undertaken in different countries to assess the impact of SI. These works were mainly research projects widely recognized in the current literature regarding SI. The research relied on an extensive literature review, where reports, scientific papers, and projects related to social impact metrics for SI were consulted. The works were selected by resorting to scientific databases such as Scopus and Web of Science and the database from European Union (EU) funded research and innovation projects, focusing on outputs of projects related to impact assessment of SI. These platforms were chosen for their disciplinary coverage and due to data availability. The selection of these databases as the basis of our study focuses on the importance of such tools as a source of documentation to support the work of academic researchers. When searching for academic works within various contributions, efficiency becomes a priority. Being able to search in a trustworthy and authoritative database saves valuable time that would otherwise be spent cross-checking multiple databases and having to confirm results (Sánchez et al., 2017).

After this screening process, and based on the previous work developed by Cunha et al. (2019), the research focused on the following works: Inobasque (Unceta et al., 2016), Resindex (Sinnergiak, 2013), Nesta (Innovation Mapping Team – Nesta, 2019), European Barcamp (Dainienė & Dagilieė, 2015), Tepsie (Mendes et al., 2012), Sinnergiak (Sinnergiak, 2013), Simpact (Simpact, 2014), and Blueprint (Bund et al., 2013).

Barriers faced to measuring the social impact of innovation

Based on the literature review, this step identified the main barriers faced to measuring the social impact of SI (further details and outputs of Step 3 can be found in Cunha & Benneworth, 2020). The identification of relevant research was a prerequisite to analyzing those barriers. Considering

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the difficulties highlighted by the research projects reviewed (in Step 1), the identified barriers were selected to develop metrics for assessing the impact of SI. This step focused on listing the main barriers to measuring SI's social impact, which are presented in tables 4 to 9.

Sharing experiences

Step 4 aimed to examine examples of good practices on measuring the social impact of SI, insights from the reviewed projects, and experiences identified in Step 3 to identify important issues and methodological challenges, learn from the research analyzed, and propose actions to overcome barriers identified in Step 2.

Interventions to overcome

According to the results of the previous steps and the previous studies by Cunha and Benneworth (2020) and Cunha et al. (2019), measuring the social impact of SI faces several challenges. For that, Step 5 focused on suggesting a set of interventions to be followed by future works to overcome the barriers to measuring the social impact of SI initiatives.

KEY FINDINGS

This section presents and discusses the key findings from the literature review on challenges posed by measuring the impact of SI. The discussion of results considers three main interrelated aspects: insights from the reviewed projects, barriers faced to measure the impact of SI, and interventions to overcome the listed barriers.

Insights from the reviewed projects

The insights presented in this subsection are based on projects that have been researched in SI. The results allowed us to understand the main projects discussing the barriers faced to developing frameworks and methodologies for measuring SI impact. Thus, a set of the main projects discussed in the current literature and available at EU-funded research and innovation projects were selected, contributing to several barriers identified when dealing with SI impact assessment.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

The analysis puts in evidence the role of Tepsie, European Barcamp, and Inobasque projects as the primary research on the main challenges faced to measure the SI impact. The case of Tepsie is a research project supported by the European Commission entitled "The Theoretical, Empirical and Policy Foundations for Building Social Innovation in Europe." This project outlines several barriers to measuring the impact of SI (summarized in tables 4 to 9) and suggests a conceptual framework to overcome the identified obstacles.

European Barcamp is research supported by Italiacamp, which has been working on developing networks for SI processes. The European Barcamp has created the ES + Methodology to measure the impact of SI. This methodology aims to map the innovation and local entrepreneurship ecosystems by identifying innovative business models and disseminating stories and best practices. This research has identified several barriers to measuring the impact of SI (summarized in tables 4 to 9).

The Inobasque (Basque Innovation Agency) is a non-profit company that acts as a regional innovation partnership with Resindex (Regional Innovation Index –Sinnergiak, 2013) and Simpact projects. These works have been leading research on SI seeking to foster collaborative actions in the region of the Basque country. Altogether, these projects aimed to investigate SI in social cohesion, competitiveness, and sustainability of societies. The results of these projects summarize a set of challenges they faced in developing metrics to assess SI.

Studies on barriers and challenges in measuring the social impact of SI are not yet widely discussed in the current literature. Although recognizing the need to explore these first results further, the findings should be able to support researchers and decision-makers to understand better developing metrics to assess the social impact of SI.

Barriers faced to measuring the impact of SI

Based on the projects examined, a set of barriers were identified and served as bases to suggest interventions to overcome them. The main barriers were analyzed, and based on that, we propose their classification into the following categories, as presented in Table 2.

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https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 2

Proposed categories for barriers faced by SI

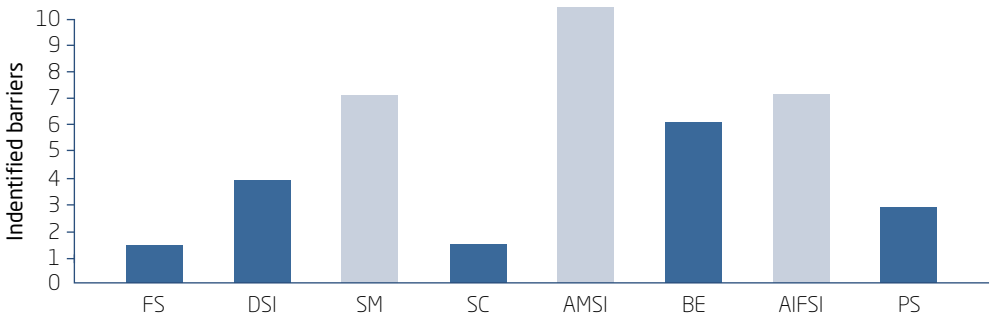
Acronym	Definition
PS	Public support
FS	Financial support
DSI	Definition of SI
SM	Selection of metrics to measure SI
SC	Selection of criteria to select indicators
AMSI	Assessment and measurement of social impact
BE	Beneficiaries' engagement
AIFSI	Awareness in the field of social impact

Source: Elaborated by the authors.

As shown in Figure 2, the main barriers are related to 1. difficulties in assessing and measuring the social impact of SI (AMSI), 2. awareness in the field of social impact (AIFSI), and 3. selection of metrics to measure social impact (SM).

Figure 2

Barriers faced to measuring SI impact



Source: Elaborated by the authors.

Based on the research projects analyzed and the identified barriers, Figure 3 presents insights from the reviewed projects versus the barriers faced. The results showed that financial support (FS) was a barrier highlighted only by the Tepsie project. According to this project, there is a lack

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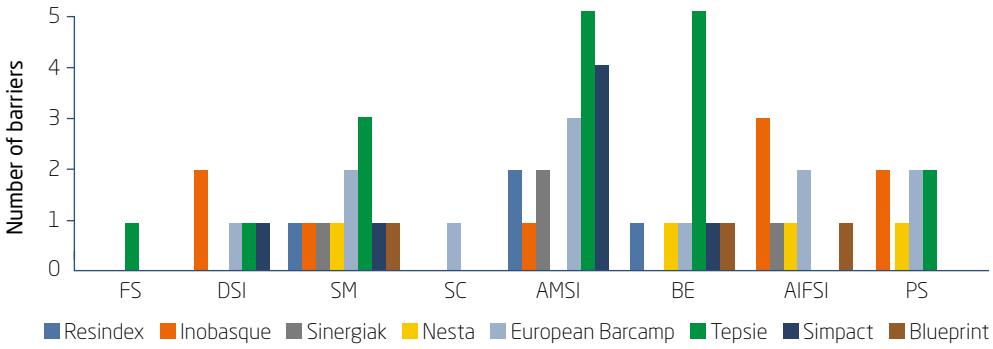
of funding devoted to SI compared to technological innovation. If this shortage of funding is overcome, the number of investments in SI initiatives would probably increase, and it may result in benefits for society and stakeholders. Aiming to overcome this barrier, the project suggests better support from foundations and public agencies for SI initiatives.

Figure 3

Insights* versus *barriers faced



Source: Elaborated by the authors.

The definition of SI (DSI) was highlighted as an important barrier to be faced by almost all projects consulted in this research. As presented in Figure 3, Inobasque was the project which offered the highest number of barriers for DSI. For instance, this project pointed out a lack of understanding of SI, a lack of knowledge of social innovation and its impact meaning, and difficulties defining the goal of SI. The results agree with the current literature, which discusses the challenges in defining SI (Agostini et al., 2017).

For the case of the selection of metrics for SI (SM), the results indicated that it was considered a common barrier for all the reviewed projects. Tepsie and European Barcamp were the ones that presented several difficulties in this field, such as a lack of agreement on specific configuration rules to select indicators, lack of understanding about the potential capacity of indicators to measure the social impact of SI, lack of data sources, and lack of networks.

Regarding the selection of criteria to select indicators for SI (SC), results from the current literature show that it is under-discussed; some attempts are presented for other sectors, such as sustainability. Still, in the case of SI, as argued by Gault et al. (2014), Krlev et al. (2014), and Kleverbeck et al. (2019), it persists as a gap.

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Nonetheless, the results presented here showed that the European Barcamp is at the forefront of this discussion, offering some difficulties in selecting criteria to select indicators for SI, namely the lack of strategies focusing on empowerment and local inclusion.

Almost all the reviewed projects listed the assessment and measuring social impact (AMSI) as a challenging task, and some problems related to AMSI were pointed out. European Barcamp, Simpact, and Tepsie were the ones that present a set of important barriers to be overcome in this field, namely lack of experience and motivation in measuring the social impact of SI, difficulties in quantifying the effect of SI, difficulties in determining the decision process, and difficulties in reaching regional exchange.

Concerning the beneficiaries engagement (BE), although several projects have mentioned it, it was mainly addressed by Tepsie. The difficulties presented by the project are related to aspects such as lack of engagement, the definition of boundaries and players of SI, lack of understanding of the role of stakeholders, lack of collaboration, and lack of networks between the people involved in these initiatives. The results showed that despite the growing social needs, there is a lack of understanding about what SI can deliver to society. This demonstrates the need for a better beneficiary engagement in developing SI initiatives in this area (Wittmayer et al., 2019).

The barriers listed by the reviewed projects in the category awareness in the field of SI (AiFSI) are related to aspects such as lack of initiatives to disseminate SI, low integration between stakeholders, lack of initiatives to identify gaps in measuring SI, and lack of engagement and raising awareness with the civil society. These barriers were mainly addressed by Inobasque and European Barcamp, which can be justified due to the efforts made by these projects to increase the awareness of SI among stakeholders.

In the case of public support (PS), it was widely regarded by the projects as an important barrier faced by researchers and practitioners working in SI. Nesta, European Barcamp, and Tepsie listed a set of difficulties related to PS in supporting SI, for instance, lack of SI public policies, lack of evaluation, and investment of previous initiatives.

Interventions to overcome

The results obtained allowed us to select and understand a set of challenges to SI impact assessment which will be summarized in tables 4 to 9. Based on these challenges, this research proposes a set of interventions to overcome these barriers. The suggested interventions are classified into five main categories, as presented in Table 3.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 3

Proposed interventions to be considered for overcoming barriers to SI projects

Acronomyn	Definition
CDSI	Clear definition of SI
FPS	Fostering public support for SI
IDMSI	Increase the development of metrics for SI
PBESSI	Promotion of a better engagement between researchers, public/private organizations, and practitioners working in the field of SI
DPBSI	Dissemination of the potential benefits of SI initiatives for beneficiaries

Source: Elaborated by the authors.

The preliminary results indicate that in the long term, to overcome barriers to SI impact assessment, an important step for researchers and decision-makers would be to get support to foster SI between public agencies, define and refine the goal of evaluation and identification of macro, meso and micro indicators to evaluate SI initiatives or practices.

It is worth mentioning that, as SI push into different contexts, the social impact assessment of these initiatives can also change the lives of communities and organizations.

The main results of this research are summarized in tables 4 to 9. In these tables, the potential benefits of the implementation of the interventions suggested are highlighted (act), where the left columns bring the proposed categories and main barriers selected from the reviewed projects, which means that those barriers need to be carefully identified (track) in SI projects, middle columns propose the interventions to overcome (spot) these barriers according to lessons learned from the reviewed research/projects, referenced in the right column.

The results presented in tables 4 to 9 evidence the challenging task of measuring the social impact of SI initiatives. This is particularly evident in the case of barriers: assessment and measurement of social influence (AMSI), awareness in the field of social impact (AiFSI), and selection of metrics to measure SI (SM), which were the categories with the highest numbers of identified barriers (11 and 7, respectively). The suggested interventions to overcome the barriers and the potential benefits proposed in the tables should be considered as a first attempt to bring together different stakeholders, such as public institutions, communities, and researchers, as fundamental drivers to overcome these barriers through the development of suitable practices in different categories.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 4

Streamlining for barriers and interventions for public support

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Pessons learned from
Public support (PS)	Lack of public support	Foster social innovation between public agencies (FPS)	Empowering democratizing, raising awareness	Inobasque (Unceta et al., 2016) (Dainienė & Dagilienė, 2015)
	Lack of social innovation public policies	Social policy experimentation (DPBSI)	Support a systematical evaluation of the social impact of SI on social ventures	Inobasque (Unceta et al., 2016) (Dainienė & Dagilienė, 2015)
	Lack of evaluation and investment in previous policies	Support of progressive foundations (FPS)	Assessment and measurement of impact	Tepsie / European Barcamp (Dainienė & Dagilienė, 2015) (Mendes et al., 2012)
	Lack of interest from public organizations to measure the social impact of SI	Further discussion between stakeholders in the field of SI (PBESSI)	Funding growth and diffusion of innovation	Tepsie / European Barcamp / Nesta (Dainienė & Dagilienė, 2015) (Innovation Mapping Team – Nesta, 2019) (Mendes et al., 2012)

Fonte: Elaborated by the authors.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, 23(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 5

Streamlining for barriers and interventions for assessment and measurement of social impact

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Pessons learned from
Assessment and measurement of social impact (AMSI)	Difficulties in reaching regional exchange	Special economic zone for social innovation (FPS)	Gaining systematic insight into social enterprises	Inobasque (Unceta et al., 2016) (Dainienė & Dagilienė, 2015)
	Lack of an appropriate level of analysis for measuring the social impact of SI	A better discussion of the assessment level (meso/macro) (IDMSI)	Dissemination of social innovation indicators at the organizational level	Resindex (Sinnergiak, 2013) (Unceta et al., 2016)
	Lack of experiences and motivations in measuring the social impact of SI	To express an integrated vision of social innovation (DPBSI)	Making a clear statement on the importance of social innovation and putting it on the agenda	Sinnergiak (Sinnergiak, 2013)
	Difficulties in differentiating the potentiality and realization of social innovations	Identification of indicators that can measure the consequences for the development of indicators and also for the design of public incentives for social innovation (IDMSI)	Exploring different capacities such as 1. knowledge capacities, 2. learning capacities	Resindex (Sinnergiak, 2013) (Unceta et al., 2016)
	Difficulties in quantifying the impact of social innovation	Identification of macro indicators which can result from surveys and gathering of information that do refer to social innovation (IDMSI)	Provide an approach to the conditions of context in which social innovations occur	Tepsie (Mendes et al., 2012)
	Risk or uncertainty presented during the social innovation process	A common approach to defining steps to build a framework to measure the social impact of SI (IDMSI)	Reduce failure in the innovation process	Tepsie (Mendes et al., 2012)

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ISSN 1678-6971 (electronic version) • RAM, São Paulo, 23(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 5 (conclusion)

Streamlining for barriers and interventions for assessment and measurement of social impact

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Pessons learned from
Assessment and measurement of social impact (AMSI)	Complexity and resilience of social systems	Cooperation across multi-stakeholder environments to tackle those problems (PBESSI)	Reduce the complexity of the social challenges addressed	Tepsie (Mendes et al., 2012)
	Difficulties in measuring outcomes of SI	Predefine which outcomes should be achieved (IDMSI)	Reduce failure in the innovation process	Simpact / European Barcamp (Innovation Mapping Team – Nesta, 2019) (Simpact, 2014)
	Determinization of the causation	To relate the outcomes to the inputs (IDMSI)	Assessment and measurement of impact	Simpact / Eurpean Barcamp (Mendes et al., 2012) (Simpact, 2014)
	To calculate the impact of SI	The impact assessment should be accompanied by a set of tests to check the results counterfactual nature. For each of the impacts, the degree of uncertainty (likelihood) should be estimated (IDMSI)	Assessment and measurement of impact	Simpact /Tepsie / Euopean Barcamp (Dainienė & Dagilienė, 2015) (Mendes et al., 2012) (Simpact, 2014)
	Difficulties in defining the decision process	The impact assessment should be presented and discussed with the stakeholders (PBESSI)	Raising awareness in the field of social impact	Simpact/Tepsie/SINNERGIAK (Sinnergiak, 2013) (Mendes et al., 2012) (Simpact, 2014)

Fonte: Elaborated by the authors.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, 23(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 6

Streamlining for barriers and interventions for Beneficiaries' engagement

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Arriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Lessons learned from
Beneficiaries engagement (BE)	Definition of the type of organization (profit or non-profit) to measure the social impact	Define and refine the goal of the evaluation (CDSI)	Effective measurement	Resindex (Sinnergiak, 2013) (Unceta et al., 2016)
	Lack of engagement between beneficiaries	Projects to involve beneficiaries of SI (DPBSI)	Beneficiaries engagement	Tepsie (Mendes et al., 2012)
	Lack of definition for the boundaries and players of social innovation	A common framework to define important sectors and players (PBESSI)	Raising awareness in the field of social impact	Tepsie / Nesta (Innovation Mapping Team – Nesta, 2019) (Mendes et al., 2012)
	Lack of awareness about the social impact delivered by social innovation	Development of workshops and seminars bringing together stakeholders (DPBSI)	Raising awareness in the field of social impact	Tepsie / European Barcamp (Dainienė & Dagilienė, 2015) (Mendes et al., 2012)
	To determine the role of stakeholders	Clear definition of who will play a role in the assessment process, when, and how (DPBSI)	Reduce the complexity of the social challenges addressed	Simpact /Tepsie (Mendes et al., 2012) (Simpact, 2014)
	Lack of collaboration and networks	Take into account the systemic and collaborative emphasized generation of innovation measurement by including "Firms with national/international collaboration on innovation" (DPBSI)	Assessment and measurement of impact	Blueprint / Tepsie (Mendes et al., 2012) (Bund et al., 2013)

Fonte: Elaborated by the authors.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, 23(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 7

Streamlining for barriers and interventions for Selection of metrics to measure SI

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Lessons learned from
Selection of metrics to measure SI (SM)	Lack of agreement on specific configuration rules to select indicators	To define the characteristics and degree of generalization of a social problem (IDMSI)	Reduction of conflicting agencies, contexts, and opportunities in the field of SI	Inobasque (Sinnergiak, 2013) (Unceta et al., 2016)
	Lack of agreement about the potential capacity of indicators to me asure the social impact of SI	To define the knowledge, learning, and development capacity of the indicator (IDMSI)	Absorptive capacity and social innovation at the organizational level	Resindex (Sinnergiak, 2013) (Unceta et al., 2016)
	Lack of approaches based on macro and comparable indicators	Identification of macro indicators which can be resulted from surveys and gathering of information that do refer to social innovation (IDMSI)	Provide an approach to the conditions of context in which social innovations occur	Sinnergiak (Sinnergiak, 2013)
	Lack of data sources	Building up social organization surveys and indicators (IDMSI)	Knowledge exchange and network data from open and web data	Nesta (Innovation Mapping Team – Nesta, 2019)
	Lack of data	Lack of a clear definition of the concept of social innovation before selecting measures (IDMSI)	Provide an approach to the conditions of context in which social innovations occur	Tepsie (Mendes et al., 2012)

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ISSN 1678-6971 (electronic version) • RAM, São Paulo, 23(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 7 (conclusion)

Streamlining for barriers and interventions for Selection of metrics to measure SI

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Lessons learned from
Selection of metrics to measure SI (SM)	Lack of networks	Further discussion between stakeholders in those fields (DPBSI)	Knowledge exchange and network data from open and web data	Tepsie / European Barcamp / Nesta (Dainienė & Dagilienė, 2015) (Innovation Mapping Team – Nesta, 2019) (Mendes et al., 2012)
	Lack of basic assumptions from existing innovation metrics	To relate the outcomes to the inputs (IDMSI)	Assessment and measurement of impact	Blueprint / Simpact / Tepsie (Dainienė & Dagilienė, 2015) (Mendes et al., 2012) (Bund et al., 2013)

Fonte: Elaborated by the authors.

Table 8

Streamlining for barriers and interventions for selection of criteria to select indicators

	Streamline for barriers to measuring the social impact of SI			
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Lessons learned from
Selection of criteria to select indicators (SC)	Lack of strategies to select the indicator to measure empowerment and local inclusion	Active involvement of the community (local and across-sectors) (IDMSI)	Social inclusion	European Barcamp (Dainienė & Dagilienė, 2015)

Fonte: Elaborated by the authors.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 9

Streamlining for barriers and interventions for awareness in the field of social impact

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Lessons learned from
Awareness in the field of social impact (AIFSI)	Identification of social innovation opportunities	Accepting risks and diffusing good practices (DPBSI)	Dissemination of knowledge across the society	Inobasque (Unceta et al., 2016) (Dainienė & Dagilienė, 2015)
	Low integration between stakeholders	Identification of Social Innovation Cluster/ Park (PBESSI)	Mapping the actors in the area	Inobasque (Unceta et al., 2016) (Dainienė & Dagilienė, 2015)
	Dissemination of SI initiatives	Scaling-up, cross-regional exchange, and systemic change (DPBSI)	Making a clear statement on the importance of social innovation and putting it on the agenda	Inobasque (Unceta et al., 2016) (Dainienė & Dagilienė, 2015)
	Identification gaps in measures for social innovation systems and new opportunities for collaboration	Recombination through network analyses and complexity science (IDMSI)	Disseminate the results of these analyses via interactive data visualizations and dashboards, search engines, open databases, and open-source software that others can build on	Sinnergiak (Sinnergiak, 2013)
	Lack of research mapping opportunities and challenges for selecting measures for the social impact of SI	Defining what the research is trying to achieve, the audiences, projects, methods, and outputs (DPBSI)	Provide an approach to the conditions of context in which social innovations occur	Nesta (Innovation Mapping Team, 2019)

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ISSN 1678-6971 (electronic version) • RAM, São Paulo, 23(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

Table 9 (conclusion)

Streamlining for barriers and interventions for awareness in the field of social impact

Streamline for barriers to measuring the social impact of SI				
Category for interventions	Barriers faced to measuring the social impact of social innovation (track)	Interventions to overcome (spot)	Potential benefit (ACT)	Lessons learned from
Awareness in the field of social impact (AIFSI)	Lack of engagement and raising awareness with the civil society	Dissemination and promotion of the initiative involving the community (PBESSI)	Assessment and measurement of impact	European Barcamp (Dainienė & Dagilienė, 2015)
	Lack of understanding of the scope of innovations systems	Publications that deal primarily with the measurement of innovation (regardless of whether they focus on a specific type of innovation (DPBSI)	Raising awareness in the field of social impact	Blueprint / European Barcamp (Dainienė & Dagilienė, 2015) (Bund et al., 2013)

Fonte: Elaborated by the authors.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, 23(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

CONCLUSION

This work is part of ongoing research, and the experiences revised in this paper provided a broad review of good practices developed by researchers who have been working on the impact measurement of SI in different regions worldwide (for further information, see also Cunha et al., 2019). Related literature was analyzed, covering a set of projects of a successful application which also contributed to enhancing the discussion about the challenges of measuring the social impact of SI.

This research offers valuable insights to academic researchers, policy decision-makers, and practitioners working in the field of SI by identifying and classifying the main barriers faced to measuring the impact of SI, namely lack of stakeholder awareness in the area of SI, difficulties in selecting the metrics to assess SI, problems to establish criteria to identify best-fitted indicators to SI, lack of beneficiaries engagement, lack of financial and public support and lack of consensus in the SI definition.

Moreover, to overcome these barriers and challenges, one significant contribution of this paper is listing and classifying possible interventions and their positive benefits derived from the lessons learned from the research projects reviewed and analyzed. The results obtained can be considered a point of departure for future research regarding the important issue of correctly measuring the impact of SI. It can also be helpful to policymaking, companies, or non-governmental organizations when implementing new SI initiatives and demonstrating their actual value to society.

Further, the results presented in this research offer some clues regarding the challenges of measuring SI. The results put in evidence the urgent need to develop metrics in this direction to overcome the barriers related to the unknown impact of SI on society. The linkage between SI and SGDs was also discussed in this research, and the results showed that it is still little explored in the literature. Yet, despite the difficult task of developing metrics to measure the impact of SI initiatives, it is evident that these actions have been contributing to improving social change, meaning that it is urgent to investigate new SI metrics, only thus it will be possible to comprehend the overall impact of SI on the society entirely.

Although it is aninitial research, this approach can be central for future scientific development in studying metrics for SI. The work is now proceeding with selecting indicators to assess SI's social impact.

ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
https://doi.org/10.1590/1678-6971/eRAMD220077.en

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ISSN 1678-6971 (electronic version) • RAM, São Paulo, *23*(6), eRAMD220077, 2022
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